

**Navy Advancement Center**

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# **Advancement Handbook For Construction Mechanic**

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## **PREFACE**

The purpose of the Advancement Handbook is to help you focus your preparation for Navywide advancement-in-rating examinations. The bibliographies (BIBs) together with this handbook form a comprehensive examination study package. Since this handbook provides skill and knowledge components for each paygrade of the Construction Mechanic (CM) rating, it helps you concentrate your study on those areas that may be tested. This feature will help you get the most out of your study time.

Each page in Parts 1 through 4 of this Advancement Handbook presents general skill areas, specific skill areas, the knowledge factors associated with each skill area, the pertinent references that address each skill, and the subject areas that may be covered on the examination. The skill statements describe the skills you are expected to perform for each paygrade. The skill statements are cumulative; that is, you are responsible for the skills for the paygrade you are competing for, your present paygrade, and all paygrades below.

Although this handbook is very comprehensive, it cannot cover all the tasks performed in the rating. As a result, the advancement examinations may contain questions more detailed than described in the “*Exam Expectations*” section of the skill areas.

Remember that advancement competition is keen, so your keys to advancement include not only comprehensive advancement examination study but also sustained superior performance.

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## **THE UNITED STATES NAVY**

### **GUARDIAN OF OUR COUNTRY**

The United States Navy is responsible for maintaining control of the sea and is a ready force on watch at home and overseas, capable of strong action to preserve the peace or of instant offensive action to win in war.

It is upon the maintenance of this control that our country's glorious future depends; the United States Navy exists to make it so.

### **WE SERVE WITH HONOR**

Tradition, valor, and victory are the Navy's heritage from the past. To these may be added dedication, discipline, and vigilance as the watchwords of the present and the future.

At home or on distant stations, we serve with pride, confident in the respect of our country, our shipmates, and our families.

Our responsibilities sober us; our adversities strengthen us.

Service to God and Country is our special privilege. We serve with honor.

### **THE FUTURE OF THE NAVY**

The Navy will always employ new weapons, new techniques, and greater power to protect and defend the United States on the sea, under the sea, and in the air.

Now and in the future, control of the sea gives the United States her greatest advantage for the maintenance of peace and for victory in war.

Mobility, surprise, dispersal, and offensive power are the keynotes of the new Navy. The roots of the Navy lie in a strong belief in the future, in continued dedication to our tasks, and in reflection on our heritage from the past.

Never have our opportunities and our responsibilities been greater.

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## Part 1

### Advancement Handbook for CM3

## Advancement Handbook for CM3

General CM <i>Skill Area</i>	<b>Technical Administration</b>
A <i>skill</i> you are expected to perform from the General Skill Area above:	<b>Prepare repair orders</b>
<i>Knowledge</i> you should have to perform this skill:	<p>Recall procedures for preparing repair orders to include the following:</p> <ul style="list-style-type: none"> <li>• Equipment repair orders (ERO)</li> <li>• Shop repair orders (SRO)</li> <li>• Completing cost sheets</li> </ul>
<i>References</i> you should study to gain the knowledge you need to perform this skill:	<ul style="list-style-type: none"> <li>• Construction Mechanic Basic, Volume 1, NAVEDTRA 11010</li> <li>• Equipment Maintenance Manual, COMSECONDNCB/COMTHIRDNCBINST 11200.1</li> <li>• Management of Civil Engineering Support Equipment, NAVFAC P-300</li> </ul>
<i>Exam Expectations.</i> These are subject areas you should know to help you answer exam questions correctly:	You can expect questions about completing repair orders and cost sheets.

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General CM <i>Skill Area</i>	<b>Technical Administration</b>
A <i>skill</i> you are expected to perform from the General Skill Area above:	<b>Research part numbers</b>
<i>Knowledge</i> you should have to perform this skill:	Recall procedures for researching part numbers to include the following: <ul style="list-style-type: none"><li>• COSAL</li><li>• Technical manuals</li></ul>
<i>References</i> you should study to gain the knowledge you need to perform this skill:	<ul style="list-style-type: none"><li>• Construction Mechanic Basic, Volume 1, NAVEDTRA 11010</li></ul>
<i>Exam Expectations.</i> These are subject areas you should know to help you answer exam questions correctly:	You can expect questions about how to research and identify part numbers using the appropriate resources correctly.

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General CM <i>Skill Area</i>	<b>Environmental Protection</b>
A <i>skill</i> you are expected to perform from the General Skill Area above:	<b>Replace emission control components</b>
<i>Knowledge</i> you should have to perform this skill:	<p>Describe the operating principles of emission control systems for automotive and construction equipment.</p> <p>Recall the procedures for replacing emission control components.</p>
<i>References</i> you should study to gain the knowledge you need to perform this skill:	<ul style="list-style-type: none"> <li>• Construction Mechanic Basic, Volume 1, NAVEDTRA 11010</li> <li>• Modern Automotive Technology</li> </ul>
<i>Exam Expectations.</i> These are subject areas you should know to help you answer exam questions correctly:	You can expect questions about the fundamental terms relating to emission control systems and the procedures required for replacing these systems.



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General CM <i>Skill Area</i>	<b>Environmental Protection</b>
A <i>skill</i> you are expected to perform from the General Skill Area above:	<b>Perform hazardous material inventory</b>
<i>Knowledge</i> you should have to perform this skill:	<p>Identify and explain the use of safety placards, signs, and hazardous material labels.</p> <p>Recall requirement for publication and use of MSDS sheets.</p>
<i>References</i> you should study to gain the knowledge you need to perform this skill:	<ul style="list-style-type: none"> <li>• Navy Safety Precautions for Forces Afloat, Volume I and Volume II, OPNAVINST 5100.19</li> <li>• Military Requirements for PO3, NAVEDTRA 12044</li> <li>• Management of Civil Engineering Support Equipment, P-300</li> </ul>
<i>Exam Expectations.</i> These are subject areas you should know to help you answer exam questions correctly:	You can expect questions about the identification of hazardous materials and the procedures for conducting hazardous material inventories.

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General CM <i>Skill Area</i>	<b>Construction Support</b>
A <i>skill</i> you are expected to perform from the General Skill Area above:	<b>Prepare material for embarkation</b>
<i>Knowledge</i> you should have to perform this skill:	<p>Recall procedures and techniques used when preparing materials and equipment for embarkation to include the following:</p> <ul style="list-style-type: none"> <li>• Cleaning and staging equipment</li> <li>• Building a 463L pallet</li> </ul>
<i>References</i> you should study to gain the knowledge you need to perform this skill:	<ul style="list-style-type: none"> <li>• Embarkation Manual, COMSECOND/THIRDCNB 3122.1</li> <li>• Equipment Operator Basic, NAVEDTRA 12535</li> </ul>
<i>Exam Expectations.</i> These are subject areas you should know to help you answer exam questions correctly:	You can expect questions about the cleaning and staging of equipment and other requirements when preparing materials and equipment for a mount-out.

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General CM <i>Skill Area</i>	<b>Construction Operations</b>
A <i>skill</i> you are expected to perform from the General Skill Area above:	<b>Perform standard Naval Construction Force (NCF) hand signals</b>
<i>Knowledge</i> you should have to perform this skill:	Recall the requirements and procedures for the following: <ul style="list-style-type: none"><li>• Hand signals used in the NCF</li><li>• Backing with a signalman</li></ul>
<i>References</i> you should study to gain the knowledge you need to perform this skill:	<ul style="list-style-type: none"><li>• Equipment Operator Basic, NAVEDTRA 12535</li></ul>
<i>Exam Expectations.</i> These are subject areas you should know to help you answer exam questions correctly:	You can expect questions about all hand signals used in the NCF, backing techniques, and requirements for using a backing guide.

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General CM <i>Skill Area</i>	<b>Construction Operations</b>
A <i>skill</i> you are expected to perform from the General Skill Area above:	<b>Install advanced base functional component (ABFC) assemblies</b>
<i>Knowledge</i> you should have to perform this skill:	Recall the requirements and procedures for Installing ABFC assemblies.
<i>References</i> you should study to gain the knowledge you need to perform this skill:	<ul style="list-style-type: none"><li>• Facilities Planning Guide, Volumes I and II, NAVFAC P-437</li></ul>
<i>Exam Expectations.</i> These are subject areas you should know to help you answer exam questions correctly:	You can expect questions about man-hour, crew size, equipment, and tool kit requirements for erecting tent camps and other ABFC assemblies.

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General CM <i>Skill Area</i>	<b>Construction Combat Readiness</b>
A <i>skill</i> you are expected to perform from the General Skill Area above:	<b>Administer first aid under combat situations</b>
<i>Knowledge</i> you should have to perform this skill:	<p>Recall the procedures to administer first aid to include the following:</p> <ul style="list-style-type: none"> <li>• CPR</li> <li>• Shock</li> <li>• Abdominal thrust for choking</li> <li>• Hemorrhaging</li> <li>• Hot and cold weather injuries</li> <li>• Treatment of fractures</li> <li>• Burns</li> </ul>
<i>References</i> you should study to gain the knowledge you need to perform this skill:	<ul style="list-style-type: none"> <li>• Seabee Combat Handbook, Volume 1, NAVEDTRA 12003</li> </ul>
<i>Exam Expectations.</i> These are subject areas you should know to help you answer exam questions correctly:	You can expect questions about general first aid for the following: general airway obstructions and clearing techniques; thrust techniques; CPR hemorrhage control; treatment for shock, exposure, fractures, and burns.

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General CM <i>Skill Area</i>	<b>Construction Combat Readiness</b>
A <i>skill</i> you are expected to perform from the General Skill Area above:	<b>Perform ambush countermeasures</b>
<i>Knowledge</i> you should have to perform this skill:	<p>Recall the requirements and rules to follow for ambush countermeasures to include the following:</p> <ul style="list-style-type: none"> <li>• Near ambush</li> <li>• Far ambush</li> <li>• Defense</li> <li>• Evasion</li> </ul>
<i>References</i> you should study to gain the knowledge you need to perform this skill:	<ul style="list-style-type: none"> <li>• Seabee Combat Handbook, Volume 1, NAVEDTRA 12003</li> </ul>
<i>Exam Expectations.</i> These are subject areas you should know to help you answer exam questions correctly:	You can expect questions about counter ambush drills to a near or far ambush, ambush right or left, and actions in and out of the killing zone.

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General CM <i>Skill Area</i>	<b>Construction Combat Readiness</b>
<i>A skill</i> you are expected to perform from the General Skill Area above:	<b>Perform survival, evasion, resistance and escape procedures</b>
<i>Knowledge</i> you should have to perform this skill:	<p>Recall the techniques and procedures for survival, evasion, resistance, and escape to include the following:</p> <ul style="list-style-type: none"> <li>• Avoiding the enemy</li> <li>• Concealment</li> <li>• Evasive travel</li> <li>• Individual and group survival</li> <li>• Safe water, food, and plants</li> <li>• S.A.T.</li> </ul>
<i>References</i> you should study to gain the knowledge you need to perform this skill:	<ul style="list-style-type: none"> <li>• Seabee Combat Handbook, Volume 1, NAVEDTRA 12003</li> </ul>
<i>Exam Expectations.</i> These are subject areas you should know to help you answer exam questions correctly:	You can expect questions about locating the enemy; signs of enemy movement; evasion techniques; types and preparation of eatable foods and water for survival; surviving as a prisoner of war (POW); and escape and evasion techniques.

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General CM <i>Skill Area</i>	<b>Construction Combat Readiness</b>
A <i>skill</i> you are expected to perform from the General Skill Area above:	<b>Perform prisoner of war (POW) handling procedures</b>
<i>Knowledge</i> you should have to perform this skill:	<p>Recall POW handling procedures to include the following:</p> <ul style="list-style-type: none"> <li>• Transportation</li> <li>• Search</li> <li>• Care and feeding</li> <li>• Treatment</li> <li>• Laws of conflict</li> <li>• 6-S's</li> </ul>
<i>References</i> you should study to gain the knowledge you need to perform this skill:	<ul style="list-style-type: none"> <li>• Seabee Combat Handbook, Volume 1, NAVEDTRA 12003</li> </ul>
<i>Exam Expectations.</i> These are subject areas you should know to help you answer exam questions correctly:	You can expect questions about the transportation, searching, care, feeding, and treatment of prisoners; the 6 S's; and the laws of conflict concerning enemy POWs.



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General CM <i>Skill Area</i>	<b>Construction Combat Readiness</b>
A <i>skill</i> you are expected to perform from the General Skill Area above:	<b>Install wire entanglements</b>
<i>Knowledge</i> you should have to perform this skill:	<p>Recall the requirements and procedures for The installation of wire entanglements to include the following:</p> <ul style="list-style-type: none"> <li>• Placement of entanglements</li> <li>• Protective wire</li> <li>• Tactical wire</li> <li>• Supplemental wire</li> </ul>
<i>References</i> you should study to gain the knowledge you need to perform this skill:	<ul style="list-style-type: none"> <li>• Seabee Combat Handbook, Volume 1, NAVEDTRA 12003</li> </ul>
<i>Exam Expectations.</i> These are subject areas you should know to help you answer exam questions correctly:	You can expect questions about protective, tactical, and supplemental wire entanglements to include their purpose and where and how to lay them out; tools and equipment needed; and safety precautions when laying out wire entanglements.

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General CM <i>Skill Area</i>	<b>Construction Combat Readiness</b>
A <i>skill</i> you are expected to perform from the General Skill Area above:	<b>Perform chemical, biological, and radiological (CBR) defensive measures</b>
<i>Knowledge</i> you should have to perform this skill:	<p>Recall CBR defensive measures to include the following:</p> <ul style="list-style-type: none"> <li>• Protective measures before, during, and after an attack</li> <li>• Protective equipment</li> <li>• Detection equipment</li> <li>• Decontamination equipment</li> </ul>
<i>References</i> you should study to gain the knowledge you need to perform this skill:	<ul style="list-style-type: none"> <li>• Seabee Combat Handbook, Volume 1, NAVEDTRA 12003</li> </ul>
<i>Exam Expectations.</i> These are subject areas you should know to help you answer exam questions correctly:	You can expect questions about the different types of CBR agents and their effects; detection and identification of symptoms of infection; protective measures and protective equipment; first aid and self aid; detection and decontamination equipment; MOPP procedures; and marking of contaminated areas.

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General CM <i>Skill Area</i>	<b>Construction Combat Readiness</b>
A <i>skill</i> you are expected to perform from the General Skill Area above:	<b>Perform duties of grenadier</b>
<i>Knowledge</i> you should have to perform this skill:	<p>Recall the duties of a grenadier to include the following:</p> <ul style="list-style-type: none"> <li>• Characteristics of the M-203</li> <li>• M-203 ammunition</li> <li>• Safety precautions</li> <li>• Responsibilities of the grenadier</li> </ul>
<i>References</i> you should study to gain the knowledge you need to perform this skill:	<ul style="list-style-type: none"> <li>• Seabee Combat Handbook, Volume 1, NAVEDTRA 12003</li> </ul>
<i>Exam Expectations.</i> These are subject areas you should know to help you answer exam questions correctly:	You can expect questions about squad positioning; parts of and operation of the M-203; use of different types of ammunition; and safety procedures for the M-203.

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General CM <i>Skill Area</i>	<b>Construction Combat Readiness</b>
A <i>skill</i> you are expected to perform from the General Skill Area above:	<b>Perform duties of a machine gun team gunner</b>
<i>Knowledge</i> you should have to perform this skill:	<p>Recall the characteristics of the machine gun and the duties of a machine gun team gunner to include the following:</p> <ul style="list-style-type: none"> <li>• Types of machine guns used</li> <li>• Ammunition</li> <li>• Rates of fire</li> <li>• Ranges</li> <li>• Collateral equipment</li> <li>• Assembly and disassembly</li> <li>• Positioning</li> <li>• Safety precautions</li> </ul>
<i>References</i> you should study to gain the knowledge you need to perform this skill:	<ul style="list-style-type: none"> <li>• Seabee Combat Handbook, Volume 1, NAVEDTRA 12003</li> </ul>
<i>Exam Expectations.</i> These are subject areas you should know to help you answer exam questions correctly:	You can expect questions about the M60 MK19 MOD3 40mm and M2HB 50-caliber machine guns; types of ammunition, rates of fire and maximum ranges; collateral equipment; assembly and disassembly; positioning for a defensive posture; and all safety precautions related to these weapons systems.

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General CM <i>Skill Area</i>	<b>Construction Combat Readiness</b>
A <i>skill</i> you are expected to perform from the General Skill Area above:	<b>Perform duties of antitank team gunner</b>
<i>Knowledge</i> you should have to perform this skill:	<p>Recall the duties of an antitank team gunner to include the following:</p> <ul style="list-style-type: none"> <li>• Weapon system</li> <li>• Characteristics</li> <li>• Positioning</li> <li>• Safety precautions</li> </ul>
<i>References</i> you should study to gain the knowledge you need to perform this skill:	<ul style="list-style-type: none"> <li>• Seabee Combat Handbook, Volume 1, NAVEDTRA 12003</li> </ul>
<i>Exam Expectations.</i> These are subject areas you should know to help you answer exam questions correctly:	You can expect questions about the characteristics and operations of the 84mm AT4; sighting; controls; target engagement; firing positions; and all safety precautions and misfire procedures.

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General CM <i>Skill Area</i>	<b>Construction Combat Readiness</b>
A <i>skill</i> you are expected to perform from the General Skill Area above:	<b>Perform duties of fire team automatic rifleman</b>
<i>Knowledge</i> you should have to perform this skill:	Recall the duties and responsibilities of the automatic rifleman to include the following: <ul style="list-style-type: none"><li>• Fire team positions</li><li>• Duties of the fire team</li></ul>
<i>References</i> you should study to gain the knowledge you need to perform this skill:	<ul style="list-style-type: none"><li>• Seabee Combat Handbook, Volume 1, NAVEDTRA 12003</li></ul>
<i>Exam Expectations.</i> These are subject areas you should know to help you answer exam questions correctly:	You can expect questions about the position of the automatic rifleman; responsibilities of the fire team; movement, employment, and communications; and discipline with the weapon.

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General CM <i>Skill Area</i>	<b>Construction Combat Readiness</b>
A <i>skill</i> you are expected to perform from the General Skill Area above:	<b>Perform land-based combat duties under CBR conditions</b>
<i>Knowledge</i> you should have to perform this skill:	<p>Recall the different CBR conditions to include the following:</p> <ul style="list-style-type: none"> <li>• Mission-oriented protective posture (MOPP) levels</li> <li>• Effectiveness</li> </ul>
<i>References</i> you should study to gain the knowledge you need to perform this skill:	<ul style="list-style-type: none"> <li>• Seabee Combat Handbook, Volume 1, NAVEDTRA 12003</li> </ul>
<i>Exam Expectations.</i> These are subject areas you should know to help you answer exam questions correctly:	You can expect questions about the different MOPP levels and authorizations; wear and care of the permeable protective clothing and mask; personal decontamination; chemical and radiological detection devices; and contamination markers.

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General CM <i>Skill Area</i>	<b>Construction Combat Readiness</b>
A <i>skill</i> you are expected to perform from the General Skill Area above:	<b>Place trip flares and other warning devices</b>
<i>Knowledge</i> you should have to perform this skill:	<p>Recall the procedures for effectively placing trip flares to include the following:</p> <ul style="list-style-type: none"> <li>• Types of trip flares</li> <li>• Proper use of flares</li> <li>• Nomenclature of flare and fuse</li> <li>• Strategic locations</li> <li>• Safety precautions</li> </ul>
<i>References</i> you should study to gain the knowledge you need to perform this skill:	<ul style="list-style-type: none"> <li>• Seabee Combat Handbook, Volume 1, NAVEDTRA 12003</li> </ul>
<i>Exam Expectations.</i> These are subject areas you should know to help you answer exam questions correctly:	You can expect questions about the types, uses, and placement of trip flares to include safety precautions in their use.



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General CM <i>Skill Area</i>	<b>Construction Combat Readiness</b>
A <i>skill</i> you are expected to perform from the General Skill Area above:	<b>Perform booby trap countermeasures</b>
<i>Knowledge</i> you should have to perform this skill:	Identify the types of booby traps and recall the countermeasures for each to include the following: <ul style="list-style-type: none"><li>• Explosive</li><li>• Nonexplosive</li></ul>
<i>References</i> you should study to gain the knowledge you need to perform this skill:	<ul style="list-style-type: none"><li>• Seabee Combat Handbook, Volume 1, NAVEDTRA 12003</li></ul>
<i>Exam Expectations.</i> These are subject areas you should know to help you answer exam questions correctly:	You can expect questions about the different types of explosive and nonexplosive booby traps; identification of traps and their location; and countermeasures for the safe movement of personnel and equipment.

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General CM <i>Skill Area</i>	<b>Construction Combat Readiness</b>
A <i>skill</i> you are expected to perform from the General Skill Area above:	<b>Transport personnel injured in combat</b>
<i>Knowledge</i> you should have to perform this skill:	Recall the procedures for transportation of a casualty to include the following: <ul style="list-style-type: none"><li>• Types of litters</li><li>• Man carries</li></ul>
<i>References</i> you should study to gain the knowledge you need to perform this skill:	<ul style="list-style-type: none"><li>• Seabee Combat Handbook, Volume 1, NAVEDTRA 12003</li></ul>
<i>Exam Expectations.</i> These are subject areas you should know to help you answer exam questions correctly:	You can expect questions about transporting a casualty on various types of litters and the proper techniques and methods for performing man carries.

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General CM <i>Skill Area</i>	<b>Construction Combat Readiness</b>
A <i>skill</i> you are expected to perform from the General Skill Area above:	<b>Perform minor repairs on tactical field telephones</b>
<i>Knowledge</i> you should have to perform this skill:	<p>Recall minor repair procedures for field telephones to include the following:</p> <ul style="list-style-type: none"> <li>• TA-312/PT telephone</li> <li>• TA-1/PT telephone</li> <li>• SB-22/PT switchboard</li> </ul>
<i>References</i> you should study to gain the knowledge you need to perform this skill:	<ul style="list-style-type: none"> <li>• Seabee Combat Handbook, Volume 1, NAVEDTRA 12003</li> </ul>
<i>Exam Expectations.</i> These are subject areas you should know to help you answer exam questions correctly:	You can expect questions about basic minor repair procedures for the various telephones and systems; equipment nomenclature; cable splicing; and dc power requirements.

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General CM <i>Skill Area</i>	<b>Construction Combat Readiness</b>
A <i>skill</i> you are expected to perform from the General Skill Area above:	<b>Perform duties as Fire Direction Control (FDC) plotter</b>
<i>Knowledge</i> you should have to perform this skill:	<p>Recall the procedures for plotting targets on the M17 plotting board to include the following:</p> <ul style="list-style-type: none"> <li>• Components of the board</li> <li>• Compute range and distance from the mortar position to the target</li> </ul>
<i>References</i> you should study to gain the knowledge you need to perform this skill:	<ul style="list-style-type: none"> <li>• Seabee Combat Handbook, Volume 1, NAVEDTRA 12003</li> </ul>
<i>Exam Expectations.</i> These are subject areas you should know to help you answer exam questions correctly:	You can expect questions about the M17 plotting board; plotting targets on the firing chart; and procedures for preparing firing data.

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General CM <i>Skill Area</i>	<b>Construction Combat Readiness</b>
A <i>skill</i> you are expected to perform from the General Skill Area above:	<b>Perform the duties as a mortar platoon gunner and misfire procedures for the M224 60mm mortar</b>
<i>Knowledge</i> you should have to perform this skill:	<p>Recall the duties of a 60 mm mortar platoon gunner to include the following:</p> <ul style="list-style-type: none"> <li>• Setting up the mortar</li> <li>• Sighting the mortar</li> <li>• Loading and firing the mortar</li> <li>• Handling misfires with the mortar</li> </ul>
<i>References</i> you should study to gain the knowledge you need to perform this skill:	<ul style="list-style-type: none"> <li>• Seabee Combat Handbook, Volume 1, NAVEDTRA 12003</li> </ul>
<i>Exam Expectations.</i> These are subject areas you should know to help you answer exam questions correctly:	<p>You can expect questions about the different assemblies and components of the 60mm mortar; different firing modes; types of ammunition and their uses; preparing ammunition for firing; fire commands and methods for laying in mortars. Also, reasons for misfires and procedures for handling them, and procedures for cleaning the mortar after firing.</p>

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General CM <i>Skill Area</i>	<b>Construction Combat Readiness</b>
A <i>skill</i> you are expected to perform from the General Skill Area above:	<b>Perform field sanitation procedures</b>
<i>Knowledge</i> you should have to perform this skill:	<p>Recall the requirements and procedures for field sanitation to include the following:</p> <ul style="list-style-type: none"> <li>• Latrines</li> <li>• Garbage disposal</li> <li>• Cold climates</li> <li>• Water treatment</li> <li>• Immersion heaters</li> </ul>
<i>References</i> you should study to gain the knowledge you need to perform this skill:	<ul style="list-style-type: none"> <li>• Seabee Combat Handbook, Volume 1, NAVEDTRA 12003</li> </ul>
<i>Exam Expectations.</i> These are subject areas you should know to help you answer exam questions correctly:	You can expect questions about types of latrines; disposal of garbage; types of sewage and garbage disposal in cold climates; purification of water; and proper use of immersion heaters.

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General CM <i>Skill Area</i>	<b>Internal Combustion Engines</b>
A <i>skill</i> you are expected to perform from the General Skill Area above:	<b>Perform minor repairs and operational checks on internal combustion engines</b>
<i>Knowledge</i> you should have to perform this skill:	<p>Recall the procedures for repairing and conducting operational checks on internal combustion engines to include the following:</p> <ul style="list-style-type: none"> <li>• Cylinder compression tests</li> <li>• Cylinder leakage tests</li> <li>• Vacuum tests</li> <li>• Valve adjustment</li> <li>• Gasket Replacement</li> </ul>
<i>References</i> you should study to gain the knowledge you need to perform this skill:	<ul style="list-style-type: none"> <li>• Construction Mechanic Basic, Volume 1, NAVEDTRA 11010</li> <li>• Modern Automotive Technology</li> <li>• TM9-8000, Principles of Automotive Vehicles</li> </ul>
<i>Exam Expectations.</i> These are subject areas you should know to help you answer exam questions correctly:	You can expect questions about the identification of tools and their nomenclature; the proper procedures for using tools and equipment to perform minor repairs and operational checks on internal combustion engines.

## Advancement Handbook for CM3

General CM <i>Skill Area</i>	<b>Internal Combustion Engines</b>
A <i>skill</i> you are expected to perform from the General Skill Area above:	<b>Replace engine cylinder heads</b>
<i>Knowledge</i> you should have to perform this skill:	Recall procedures for replacing cylinder heads.
<i>References</i> you should study to gain the knowledge you need to perform this skill:	<ul style="list-style-type: none"><li>• Construction Mechanic Basic, Volume 1, NAVEDTRA 11010</li><li>• Modern Automotive Technology</li><li>• TM9-8000, Principles of Automotive Vehicles</li></ul>
<i>Exam Expectations.</i> These are subject areas you should know to help you answer exam questions correctly:	You can expect questions about replacing cylinder heads on various types of equipment used in the NCF.



## Advancement Handbook for CM3

General CM <i>Skill Area</i>	<b>Internal Combustion Engines</b>
A <i>skill</i> you are expected to perform from the General Skill Area above:	<b>Replace blowers and turbochargers on engines</b>
<i>Knowledge</i> you should have to perform this skill:	Recall proper procedures for replacement of turbochargers and blowers on internal combustion engines.
<i>References</i> you should study to gain the knowledge you need to perform this skill:	<ul style="list-style-type: none"> <li>• Construction Mechanic Basic, Volume 1, NAVEDTRA 11010</li> <li>• Modern Automotive Technology</li> <li>• TM9-8000, Principles of Automotive Vehicles</li> </ul>
<i>Exam Expectations.</i> These are subject areas you should know to help you answer exam questions correctly:	You can expect questions about replacing turbochargers and blowers.

## Advancement Handbook for CM3

General CM <i>Skill Area</i>	<b>Internal Combustion Engines</b>
A <i>skill</i> you are expected to perform from the General Skill Area above:	<b>Replace carburetors</b>
<i>Knowledge</i> you should have to perform this skill:	Recall procedures for replacing carburetors on the various types of equipment used in the NCF.
<i>References</i> you should study to gain the knowledge you need to perform this skill:	<ul style="list-style-type: none"><li>• Construction Mechanic Basic, Volume 1, NAVEDTRA 11010</li><li>• Modern Automotive Technology</li><li>• TM9-8000, Principles of Automotive Vehicles</li></ul>
<i>Exam Expectations.</i> These are subject areas you should know to help you answer exam questions correctly:	You can expect questions about replacing carburetors to include types of tools and equipment used to perform the task.

## Advancement Handbook for CM3

General CM <i>Skill Area</i>	<b>Power Trains</b>
A <i>skill</i> you are expected to perform from the General Skill Area above:	<b>Perform minor repairs on automotive, construction and material handling equipment (MHE)</b>
<i>Knowledge</i> you should have to perform this skill:	Recall procedures for performing minor repairs and preventive maintenance on automotive, construction, and MHE.
<i>References</i> you should study to gain the knowledge you need to perform this skill:	<ul style="list-style-type: none"> <li>• Construction Mechanic Basic, Volume 2, NAVEDTRA 11011</li> <li>• Modern Automotive Technology</li> <li>• TM9-8000, Principles of Automotive Vehicles</li> </ul>
<i>Exam Expectations.</i> These are subject areas you should know to help you answer exam questions correctly:	You can expect questions about preventive maintenance and minor repair procedures on automotive construction and MHE.

## Advancement Handbook for CM3

General CM <i>Skill Area</i>	<b>Power Trains</b>
A <i>skill</i> you are expected to perform from the General Skill Area above:	<b>Perform minor repairs and preventive maintenance on the transmissions for automotive, construction and material handling equipment(MHE)</b>
<i>Knowledge</i> you should have to perform this skill:	<p>Recall the requirements and procedures for performing maintenance on transmissions to include the following:</p> <ul style="list-style-type: none"> <li>• Change standard transmission fluids</li> <li>• Change automatic transmission fluids</li> <li>• Replace filters and screens on automatic transmissions</li> <li>• Repair and adjust transmission linkages</li> <li>• Adjust pressure plate levers</li> <li>• Replace and adjust clutches</li> </ul>
<i>References</i> you should study to gain the knowledge you need to perform this skill:	<ul style="list-style-type: none"> <li>• Construction Mechanic Basic, Volume 2, NAVEDTRA 11011</li> <li>• Modern Automotive Technology</li> <li>• TM9-8000, Principles of Automotive Vehicles</li> </ul>
<i>Exam Expectations.</i> These are subject areas you should know to help you answer exam questions correctly:	You can expect questions about performing preventive maintenance and minor repairs on transmissions for automotive, construction, and MHE to include identification of parts and their nomenclature.

## Advancement Handbook for CM3

General CM <i>Skill Area</i>	<b>Power Trains</b>
<i>A skill</i> you are expected to perform from the General Skill Area above:	<b>Replace and perform minor repairs on power train assemblies and subassemblies on automotive, construction, and material handling equipment (MHE)</b>
<i>Knowledge</i> you should have to perform this skill:	<p>Recall component nomenclature and the procedures for replacing and adjusting power train components to include the following:</p> <ul style="list-style-type: none"> <li>• Manual and auxiliary transmissions</li> <li>• Automatic and power shift transmissions</li> <li>• Master clutches on construction equipment</li> <li>• Release bearings</li> <li>• Pilot bearings</li> <li>• Drive shafts</li> <li>• Universal joints</li> <li>• Differential housing assemblies</li> <li>• Axles</li> <li>• Winches and power takeoff units and controls</li> <li>• Torque converters and fluid couplings</li> <li>• Components of planetary assemblies</li> </ul>
<i>References</i> you should study to gain the knowledge you need to perform this skill:	<ul style="list-style-type: none"> <li>• Construction Mechanic Basic, Volume 2, NAVEDTRA 11011</li> <li>• Modern Automotive Technology</li> <li>• TM9-8000, Principles of Automotive Vehicles</li> </ul>
<i>Exam Expectations.</i> These are subject areas you should know to help you answer exam questions correctly:	You can expect questions about the components of power trains; the requirements and procedures for replacing and adjusting the components; and component nomenclature.

## Advancement Handbook for CM3

General CM <i>Skill Area</i>	<b>Power Trains</b>
A <i>skill</i> you are expected to perform from the General Skill Area above:	<b>Replace and adjust components of track laying equipment used in the NCF</b>
<i>Knowledge</i> you should have to perform this skill:	<p>Recall procedures for replacing and adjusting components to include the following:</p> <ul style="list-style-type: none"> <li>• Track rollers, idlers, and sprockets</li> <li>• Brakes on track laying equipment</li> <li>• Track tension on track laying equipment</li> <li>• Track pads and grousers</li> <li>• Sprocket segments</li> <li>• Recoil spring assemblies</li> </ul>
<i>References</i> you should study to gain the knowledge you need to perform this skill:	<ul style="list-style-type: none"> <li>• Construction Mechanic Basic, Volume 2, NAVEDTRA 11011</li> <li>• Modern Automotive Technology</li> <li>• TM9-8000, Principles of Automotive Vehicles</li> </ul>
<i>Exam Expectations.</i> These are subject areas you should know to help you answer exam questions correctly:	You can expect questions about identifying, replacing, and adjusting components of track laying equipment.

## Advancement Handbook for CM3

General CM <i>Skill Area</i>	<b>Fuel Systems</b>
A <i>skill</i> you are expected to perform from the General Skill Area above:	<b>Perform minor repairs and routine maintenance on gas and diesel fuel systems</b>
<i>Knowledge</i> you should have to perform this skill:	<p>Recall the procedures for performing maintenance and repair of fuel systems to include the following:</p> <ul style="list-style-type: none"> <li>• Flush fuel tanks</li> <li>• Trace fuel flow</li> <li>• Adjust engine governors</li> <li>• Repair engine governors</li> </ul>
<i>References</i> you should study to gain the knowledge you need to perform this skill:	<ul style="list-style-type: none"> <li>• Construction Mechanic Basic, Volume 1, NAVEDTRA 11010</li> <li>• Modern Automotive Technology</li> <li>• TM9-8000, Principles of Automotive Vehicles</li> <li>• Heavy Duty Fuel Systems</li> </ul>
<i>Exam Expectations.</i> These are subject areas you should know to help you answer exam questions correctly:	You can expect questions about troubleshooting, maintaining, and performing minor repairs on fuel systems.

## Advancement Handbook for CM3

General CM <i>Skill Area</i>	<b>Fuel Systems</b>
A <i>skill</i> you are expected to perform from the General Skill Area above:	<b>Replace gas and diesel fuel system components</b>
<i>Knowledge</i> you should have to perform this skill:	<p>Recall procedures for replacing fuel system components to include the following:</p> <ul style="list-style-type: none"> <li>• Transfer pumps</li> <li>• Fuel pumps</li> <li>• Injection pumps</li> <li>• Governors and governor actuators</li> </ul>
<i>References</i> you should study to gain the knowledge you need to perform this skill:	<ul style="list-style-type: none"> <li>• Construction Mechanic Basic, Volume 1, NAVEDTRA 11010</li> <li>• Modern Automotive Technology</li> <li>• TM9-8000, Principles of Automotive Vehicles</li> <li>• Heavy Duty Fuel Systems</li> </ul>
<i>Exam Expectations.</i> These are subject areas you should know to help you answer exam questions correctly:	You can expect questions about the correct procedures for replacing fuel system components.



## Advancement Handbook for CM3

General CM <i>Skill Area</i>	<b>Hydraulic/Pneumatic Maintenance</b>
A <i>skill</i> you are expected to perform from the General Skill Area above:	<b>Perform preventive and interim maintenance on Hydraulic/Pneumatic systems for automotive, construction, and Material Handling equipment (MHE)</b>
<i>Knowledge</i> you should have to perform this skill:	<p>Recall procedures for performing preventive and interim maintenance to include the following:</p> <ul style="list-style-type: none"> <li>• Flush hydraulic systems</li> <li>• Change hydraulic oil</li> <li>• Replace hydraulic filters</li> <li>• Bleed hydraulic systems</li> </ul>
<i>References</i> you should study to gain the knowledge you need to perform this skill:	<ul style="list-style-type: none"> <li>• Construction Mechanic Basic, Volume 2, NAVEDTRA 11011</li> <li>• Modern Automotive Technology</li> <li>• TM9-8000, Principles of Automotive Vehicles</li> <li>• Fluid Power, NAVEDTRA 12964</li> </ul>
<i>Exam Expectations.</i> These are subject areas you should know to help you answer exam questions correctly:	You can expect questions about performing preventive maintenance and interim repairs on hydraulic and pneumatic systems for automotive, construction, and material handling equipment (MHE).

## Advancement Handbook for CM3

General CM <i>Skill Area</i>	<b>Hydraulic/Pneumatic Maintenance</b>
A <i>skill</i> you are expected to perform from the General Skill Area above:	<b>Replacing components of hydraulic and pneumatic systems on construction and MHE</b>
<i>Knowledge</i> you should have to perform this skill:	<p>Recall procedures for replacing components of hydraulic and pneumatic systems to include the following:</p> <ul style="list-style-type: none"> <li>• Hydraulic reservoirs</li> <li>• Hydraulic hoses, lines, fittings.</li> <li>• Hydraulic/pneumatic rams and actuators</li> </ul>
<i>References</i> you should study to gain the knowledge you need to perform this skill:	<ul style="list-style-type: none"> <li>• Construction Mechanic Basic, Volume 2, NAVEDTRA 11011</li> <li>• Modern Automotive Technology</li> <li>• TM9-8000, Principles of Automotive Vehicles</li> <li>• Fluid Power, NAVEDTRA 12964</li> </ul>
<i>Exam Expectations.</i> These are subject areas you should know to help you answer exam questions correctly:	You can expect questions on the procedures for replacing hydraulic and pneumatic system components.

## Advancement Handbook for CM3

General CM <i>Skill Area</i>	<b>Cooling Systems</b>
A <i>skill</i> you are expected to perform from the General Skill Area above:	<b>Service and test cooling systems</b>
<i>Knowledge</i> you should have to perform this skill:	<p>Recall procedures for testing and servicing cooling systems to include the following:</p> <ul style="list-style-type: none"> <li>• Test and repair oil coolers</li> <li>• Perform pressure test on radiators</li> <li>• Winterize equipment</li> </ul>
<i>References</i> you should study to gain the knowledge you need to perform this skill:	<ul style="list-style-type: none"> <li>• Construction Mechanic Basic, Volume 1, NAVEDTRA 11010</li> <li>• Modern Automotive Technology</li> <li>• TM9-8000, Principles of Automotive Vehicles</li> </ul>
<i>Exam Expectations.</i> These are subject areas you should know to help you answer exam questions correctly:	You can expect questions on performing cooling system tests and services.

## Advancement Handbook for CM3

General CM <i>Skill Area</i>	<b>Cooling Systems</b>
A <i>skill</i> you are expected to perform from the General Skill Area above:	<b>Replace cooling system components</b>
<i>Knowledge</i> you should have to perform this skill:	Recall procedures for replacing cooling system components to include the following: <ul style="list-style-type: none"><li>• Thermostats</li><li>• Radiator core assemblies</li><li>• Radiators and accessories</li><li>• Water pumps</li></ul>
<i>References</i> you should study to gain the knowledge you need to perform this skill:	<ul style="list-style-type: none"><li>• Construction Mechanic Basic, Volume 1, NAVEDTRA 11010</li><li>• Modern Automotive Technology</li><li>• TM9-8000, Principles of Automotive Vehicles</li></ul>
<i>Exam Expectations.</i> These are subject areas you should know to help you answer exam questions correctly:	You can expect questions about replacing components of cooling systems.

## Advancement Handbook for CM3

General CM <i>Skill Area</i>	<b>Lubrication Systems</b>
A <i>skill</i> you are expected to perform from the General Skill Area above:	<b>Perform preventive and interim maintenance on lubrication systems</b>
<i>Knowledge</i> you should have to perform this skill:	<p>Recall procedures for performing preventive maintenance on lubrication systems to include the following:</p> <ul style="list-style-type: none"> <li>• Replace oil pumps</li> <li>• Replace oil filters</li> <li>• Change oil</li> </ul>
<i>References</i> you should study to gain the knowledge you need to perform this skill:	<ul style="list-style-type: none"> <li>• Construction Mechanic Basic, Volume 1, NAVEDTRA 11010</li> <li>• Modern Automotive Technology</li> <li>• TM9-8000, Principles of Automotive Vehicles</li> </ul>
<i>Exam Expectations.</i> These are subject areas you should know to help you answer exam questions correctly:	You can expect questions about performing preventive and interim maintenance on lubrication systems.

## Advancement Handbook for CM3

General CM <i>Skill Area</i>	<b>Electrical/Electronic Systems</b>
<i>A skill you are expected to perform from the General Skill Area above:</i>	<b>Clean electrical and electronic equipment</b>
<i>Knowledge you should have to perform this skill:</i>	<p>Recall procedures for cleaning, preserving, and lubricating electrical and electronic equipment to include the following:</p> <ul style="list-style-type: none"> <li>• Apply preservatives to electrical equipment (cannon plugs, cables, etc.)</li> <li>• Clean and lubricate cranking and charging system components</li> </ul>
<i>References you should study to gain the knowledge you need to perform this skill:</i>	<ul style="list-style-type: none"> <li>• Construction Mechanic Basic, Volume 2, NAVEDTRA 11011</li> <li>• Modern Automotive Technology</li> <li>• TM9-8000, Principles of Automotive Vehicles</li> </ul>
<i>Exam Expectations.</i> These are subject areas you should know to help you answer exam questions correctly:	You can expect questions on preserving and cleaning electrical systems and components.

## Advancement Handbook for CM3

General CM <i>Skill Area</i>	<b>Electrical/Electronic Systems</b>
A <i>skill</i> you are expected to perform from the General Skill Area above:	<b>Test, adjust, and replace components of ignition systems</b>
<i>Knowledge</i> you should have to perform this skill:	<p>Recall procedures for replacing, testing, and adjusting ignition systems and components to include the following:</p> <ul style="list-style-type: none"> <li>• Ignition dwells</li> <li>• Air gaps</li> <li>• Distributor components</li> <li>• Spark plugs</li> <li>• Engine timing</li> </ul>
<i>References</i> you should study to gain the knowledge you need to perform this skill:	<ul style="list-style-type: none"> <li>• Construction Mechanic Basic, Volume 2, NAVEDTRA 11011</li> <li>• Modern Automotive Technology</li> <li>• TM9-8000, Principles of Automotive Vehicles</li> </ul>
<i>Exam Expectations.</i> These are subject areas you should know to help you answer exam questions correctly:	You can expect questions about testing, adjusting, and replacing components of ignition systems.

## Advancement Handbook for CM3

General CM <i>Skill Area</i>	<b>Electrical/Electronic Systems</b>
A <i>skill</i> you are expected to perform from the General Skill Area above:	<b>Test, replace and recharge batteries, and components of charging systems</b>
<i>Knowledge</i> you should have to perform this skill:	<p>Recall requirements and procedures for the following:</p> <ul style="list-style-type: none"> <li>• Test batteries</li> <li>• Recharge batteries</li> <li>• Replace batteries</li> <li>• Fill batteries with electrolyte</li> <li>• Fabricate battery cables</li> </ul>
<i>References</i> you should study to gain the knowledge you need to perform this skill:	<ul style="list-style-type: none"> <li>• Construction Mechanic Basic, Volume 2, NAVEDTRA 11011</li> <li>• Modern Automotive Technology</li> <li>• TM9-8000, Principles of Automotive Vehicles</li> </ul>
<i>Exam Expectations.</i> These are subject areas you should know to help you answer exam questions correctly:	You can expect questions about testing, recharging, and replacing batteries and related components of electrical charging systems.



## Advancement Handbook for CM3

General CM <i>Skill Area</i>	<b>Electrical/Electronic Systems</b>
A <i>skill</i> you are expected to perform from the General Skill Area above:	<b>Replace electrical components and wires/wire harnesses</b>
<i>Knowledge</i> you should have to perform this skill:	<p>Recall procedures for replacing electrical components to include the following:</p> <ul style="list-style-type: none"> <li>• Voltage regulators</li> <li>• Solenoids relays and switches</li> <li>• Wires and wire harnesses</li> <li>• Align headlamps</li> <li>• Flashers, fuses, and circuit breakers</li> </ul>
<i>References</i> you should study to gain the knowledge you need to perform this skill:	<ul style="list-style-type: none"> <li>• Construction Mechanic Basic, Volume 2, NAVEDTRA 11011</li> <li>• Modern Automotive Technology</li> <li>• TM9-8000, Principles of Automotive Vehicles</li> </ul>
<i>Exam Expectations.</i> These are subject areas you should know to help you answer exam questions correctly:	You can expect questions on replacing electrical components and related wiring.

## Advancement Handbook for CM3

General CM <i>Skill Area</i>	<b>Chassis and Bodies</b>
A <i>skill</i> you are expected to perform from the General Skill Area above:	<b>Perform corrosion control on automotive, construction, and weight handling equipment</b>
<i>Knowledge</i> you should have to perform this skill:	<p>Recall procedures for performing corrosion control to include the following:</p> <ul style="list-style-type: none"> <li>• Remove corrosion chemically</li> <li>• Remove corrosion mechanically</li> <li>• Treat metal after corrosion removal</li> <li>• Apply preservatives to metal</li> </ul>
<i>References</i> you should study to gain the knowledge you need to perform this skill:	<ul style="list-style-type: none"> <li>• Construction Mechanic Basic, Volume 2, NAVEDTRA 11011</li> <li>• Modern Automotive Technology</li> <li>• TM9-8000, Principles of Automotive Vehicles</li> </ul>
<i>Exam Expectations.</i> These are subject areas you should know to help you answer exam questions correctly:	You can expect questions on corrosion control practices for equipment utilized within the NCF.

## Advancement Handbook for CM3

General CM <i>Skill Area</i>	<b>Chassis and Bodies</b>
A <i>skill</i> you are expected to perform from the General Skill Area above:	<b>Replace steering and suspension components</b>
<i>Knowledge</i> you should have to perform this skill:	<p>Recall procedures for replacing steering and suspension components to include the following:</p> <ul style="list-style-type: none"> <li>• Wheel grease seals</li> <li>• Inner and outer wheel bearings</li> <li>• Rear axle bearings</li> <li>• Power steering pumps</li> <li>• Shock absorbers</li> <li>• Drag links</li> <li>• Pitman arms</li> <li>• Idler arms</li> <li>• Tie rod ends</li> <li>• Suspension bushings</li> </ul>
<i>References</i> you should study to gain the knowledge you need to perform this skill:	<ul style="list-style-type: none"> <li>• Construction Mechanic Basic, Volume 2, NAVEDTRA 11011</li> <li>• Modern Automotive Technology</li> <li>• TM9-8000, Principles of Automotive Vehicles</li> </ul>
<i>Exam Expectations.</i> These are subject areas you should know to help you answer exam questions correctly:	You can expect questions about replacing steering and suspension components.

## Advancement Handbook for CM3

General CM <i>Skill Area</i>	<b>Chassis and Bodies</b>
A <i>skill</i> you are expected to perform from the General Skill Area above:	<b>Repair and replace tires tubes and wheels</b>
<i>Knowledge</i> you should have to perform this skill:	<p>Recall procedures for replacing and repairing tires, tubes, and wheels to include the following:</p> <ul style="list-style-type: none"> <li>• Remove and replace tires on rims</li> <li>• Repair tires and tubes</li> <li>• Balance wheels</li> <li>• Replace damaged rims and wheels</li> <li>• Replace broken studs on wheel hubs</li> </ul>
<i>References</i> you should study to gain the knowledge you need to perform this skill:	<ul style="list-style-type: none"> <li>• Construction Mechanic Basic, Volume 2, NAVEDTRA 11011</li> <li>• Modern Automotive Technology</li> <li>• TM9-8000, Principles of Automotive Vehicles</li> </ul>
<i>Exam Expectations.</i> These are subject areas you should know to help you answer exam questions correctly:	You can expect questions on repairing and replacing tires and rims.

## Advancement Handbook for CM3

General CM <i>Skill Area</i>	<b>Chassis and Bodies</b>
A <i>skill</i> you are expected to perform from the General Skill Area above:	<b>Handle and store welding gases</b>
<i>Knowledge</i> you should have to perform this skill:	Recall requirements and procedures for handling and storing welding gases.
<i>References</i> you should study to gain the knowledge you need to perform this skill:	<ul style="list-style-type: none"><li>• Construction Mechanic Basic, Volume 2, NAVEDTRA 11011</li><li>• Steelworker, Volume 1, NAVEDTRA 12529</li></ul>
<i>Exam Expectations.</i> These are subject areas you should know to help you answer exam questions correctly:	You can expect questions on handling and storing welding gases.

## Advancement Handbook for CM3

General CM <i>Skill Area</i>	<b>Chassis and Bodies</b>
A <i>skill</i> you are expected to perform from the General Skill Area above:	<b>Repair bodies and fenders</b>
<i>Knowledge</i> you should have to perform this skill:	Recall procedures for repairing bodies and fenders to include preparing, priming, and painting equipment (automotive, construction, material, weight handling and support.).
<i>References</i> you should study to gain the knowledge you need to perform this skill:	<ul style="list-style-type: none"> <li>• Construction Mechanic Basic, Volume 2, NAVEDTRA 11011</li> <li>• Modern Automotive Technology</li> </ul>
<i>Exam Expectations.</i> These are subject areas you should know to help you answer exam questions correctly:	You can expect questions about repairing bodies and fenders to include painting and marking.

## Advancement Handbook for CM3

General CM <i>Skill Area</i>	<b>Brake Systems</b>
A <i>skill</i> you are expected to perform from the General Skill Area above:	<b>Repair and replace air brake components</b>
<i>Knowledge</i> you should have to perform this skill:	<p>Recall procedures for repairing and replacing air brake components to include the following:</p> <ul style="list-style-type: none"> <li>• Replace safety valves</li> <li>• Adjust safety valves</li> <li>• Replace relay valves</li> <li>• Replace quick-release valves</li> <li>• Replace unloader valves</li> <li>• Replace emergency relay valves</li> <li>• Replace cutout valves</li> <li>• Replace air lines</li> <li>• Replace and adjusting slack adjusters and cam assemblies</li> <li>• Cleaning brake assemblies</li> <li>• Repair air packs</li> <li>• Replace brake chambers</li> <li>• Replace components of brake valve assemblies</li> <li>• Adjust air brake assemblies</li> </ul>
<i>References</i> you should study to gain the knowledge you need to perform this skill:	<ul style="list-style-type: none"> <li>• Construction Mechanic Basic, Volume 2, NAVEDTRA 11011</li> <li>• Modern Automotive Technology</li> <li>• TM9-8000, Principles of Automotive Vehicles</li> </ul>
<i>Exam Expectations.</i> These are subject areas you should know to help you answer exam questions correctly:	You can expect questions about replacing components and making adjustments to air brake assemblies. You can also expect questions concerning theory and operation of the air brake system.

## Advancement Handbook for CM3

General CM <i>Skill Area</i>	<b>Brake Systems</b>
A <i>skill</i> you are expected to perform from the General Skill Area above:	<b>Repair and adjust hydraulic brake assembly components</b>
<i>Knowledge</i> you should have to perform this skill:	<p>Recall procedures for replacing and adjusting components of hydraulic brake assemblies to include the following:</p> <ul style="list-style-type: none"> <li>• Replace hydraulic brake lines</li> <li>• Replace brake shoes</li> <li>• Replace brake drums</li> <li>• Adjusting brake shoes and bands</li> <li>• Replace brake calipers</li> <li>• Replace brake pads</li> <li>• Replace components of hubs and rotors</li> <li>• Replace master cylinders</li> <li>• Replace wheel cylinders</li> <li>• Replace hydrovac slave cylinders</li> <li>• Replace vacuum boosters</li> </ul>
<i>References</i> you should study to gain the knowledge you need to perform this skill:	<ul style="list-style-type: none"> <li>• Construction Mechanic Basic, Volume 2, NAVEDTRA 11011</li> <li>• Modern Automotive Technology</li> <li>• TM9-8000, Principles of Automotive Vehicles</li> </ul>
<i>Exam Expectations.</i> These are subject areas you should know to help you answer exam questions correctly:	You can expect questions about the theory and operation of brake systems and on the procedures for replacing and adjusting components of hydraulic brake systems.



## Advancement Handbook for CM3

General CM <i>Skill Area</i>	<b>Brake Systems</b>
A <i>skill</i> you are expected to perform from the General Skill Area above:	<b>Adjust and replace hand brake components</b>
<i>Knowledge</i> you should have to perform this skill:	Recall procedures for replacing and adjusting hand brake components.
<i>References</i> you should study to gain the knowledge you need to perform this skill:	<ul style="list-style-type: none"> <li>• Construction Mechanic Basic, Volume 2, NAVEDTRA 11011</li> <li>• Modern Automotive Technology</li> <li>• TM9-8000, Principles of Automotive Vehicles</li> </ul>
<i>Exam Expectations.</i> These are subject areas you should know to help you answer exam questions correctly:	You can expect questions on replacing and adjusting hand brake components.

## Part 2

### Advancement Handbook for CM2

## Advancement Handbook for CM2

General CM <i>Skill Area</i>	<b>Technical Administration</b>
A <i>skill</i> you are expected to perform from the General Skill Area above:	<b>Prepare and maintain equipment history jackets</b>
<i>Knowledge</i> you should have to perform this skill:	Recall procedures for preparing and maintaining equipment history jackets.
<i>References</i> you should study to gain the knowledge you need to perform this skill:	<ul style="list-style-type: none"> <li>• Construction Mechanic Basic, Volume 1, NAVEDTRA 11010</li> <li>• Equipment Maintenance Manual, COMSECON/COMTHIRDNCBINST 11200.1</li> <li>• Management of Civil Engineering Support Equipment, NAVFAC P-300</li> </ul>
<i>Exam Expectations.</i> These are subject areas you should know to help you answer exam questions correctly:	You can expect questions on preparing and maintaining equipment history jackets and to include contents of the history jacket.

## Advancement Handbook for CM2

General CM <i>Skill Area</i>	<b>Technical Administration</b>
A <i>skill</i> you are expected to perform from the General Skill Area above:	<b>Prepare and maintain repair parts inventories and accountability records</b>
<i>Knowledge</i> you should have to perform this skill:	Recall procedures for maintaining repair parts inventories and accountability records.
<i>References</i> you should study to gain the knowledge you need to perform this skill:	<ul style="list-style-type: none"> <li>• Construction Mechanic Basic, Volume 1, NAVEDTRA 11010</li> <li>• Seabee Supply Manual, COMSECOND/COMTHIRDNCBINST 4400.3</li> <li>• Equipment Maintenance Manual, COMSECONDNCB/COMTHIRDNCBINST 11200.1</li> </ul>
<i>Exam Expectations.</i> These are subject areas you should know to help you answer exam questions correctly:	You can expect questions on maintaining repair part inventories and accountability records.

## Advancement Handbook for CM2

General CM <i>Skill Area</i>	<b>Technical Administration</b>
A <i>skill</i> you are expected to perform from the General Skill Area above:	<b>Prepare time cards</b>
<i>Knowledge</i> you should have to perform this skill:	Recall procedures for correct NCF time keeping.
<i>References</i> you should study to gain the knowledge you need to perform this skill:	<ul style="list-style-type: none"><li>• COMSECOND/COMTHIRDNCBINST 5312.1, Timekeeping Procedures</li></ul>
<i>Exam Expectations.</i> These are subject areas you should know to help you answer exam questions correctly:	You can expect questions on timekeeping to include direct labor, indirect labor, and readiness and training.

## Advancement Handbook for CM2

General CM <i>Skill Area</i>	<b>Technical Administration</b>
A <i>skill</i> you are expected to perform from the General Skill Area above:	<b>Prepare equipment inspection forms</b>
<i>Knowledge</i> you should have to perform this skill:	Recall procedures for preparing inspection forms.
<i>References</i> you should study to gain the knowledge you need to perform this skill:	<ul style="list-style-type: none"> <li>• Construction Mechanic Basic, Volume 1, NAVEDTRA 11010</li> <li>• Equipment Maintenance Manual, COMSECOND/COMTHIRDNCBINST 11200.1</li> <li>• Management of Civil Engineering Support Equipment, NAVFAC P-300</li> </ul>
<i>Exam Expectations.</i> These are subject areas you should know to help you answer exam questions correctly:	You can expect questions on the use and preparation of equipment inspection forms.

## Advancement Handbook for CM2

General CM <i>Skill Area</i>	<b>Technical Administration</b>
A <i>skill</i> you are expected to perform from the General Skill Area above:	<b>Maintain preventive maintenance (PM) cards for vehicles and equipment</b>
<i>Knowledge</i> you should have to perform this skill:	Recall procedures for maintaining (PM) cards.
<i>References</i> you should study to gain the knowledge you need to perform this skill:	<ul style="list-style-type: none"> <li>• Construction Mechanic Basic, Volume 1, NAVEDTRA 11010</li> <li>• Equipment Maintenance Manual, COMSECOND/COMTHIRDNCBINST 11200.1</li> <li>• NAVFAC P-300</li> </ul>
<i>Exam Expectations.</i> These are subject areas you should know to help you answer exam questions correctly:	You can expect questions on maintaining PM cards to include information entered on the cards.

## Advancement Handbook for CM2

General CM <i>Skill Area</i>	<b>Environmental Protection</b>
A <i>skill</i> you are expected to perform from the General Skill Area above:	<b>Update or maintain safety data files</b>
<i>Knowledge</i> you should have to perform this skill:	Recall procedures for updating and maintaining safety files.
<i>References</i> you should study to gain the knowledge you need to perform this skill:	<ul style="list-style-type: none"> <li>• OPNAVINST 5100.17</li> <li>• Military Requirements for PO3, NAVEDTRA 12044</li> <li>• Code of Federal Regulations, 29 CFR</li> <li>• Seabee Crewleader's Handbook</li> </ul>
<i>Exam Expectations.</i> These are subject areas you should know to help you answer exam questions correctly:	You can expect questions about updating and maintaining safety data files.



## Advancement Handbook for CM2

General CM <i>Skill Area</i>	<b>Construction Operations</b>
A <i>skill</i> you are expected to perform from the General Skill Area above:	<b>Direct and coordinate installation of Advanced Base Functional Component (ABFC) assemblies</b>
<i>Knowledge</i> you should have to perform this skill:	Recall procedures for directing and coordinating installation of ABFC assemblies.
<i>References</i> you should study to gain the knowledge you need to perform this skill:	<ul style="list-style-type: none"><li>• Facilities Planning Guide, Volume I, NAVFAC P-437</li><li>• Facilities Planning Guide, Volume II, NAVFAC P-437</li><li>• EO Basic, NAVEDTRA 12535</li></ul>
<i>Exam Expectations.</i> These are subject areas you should know to help you answer exam questions correctly:	You can expect questions about using the P-437 to find equipment, labor, and material resources, determine man-day estimates, and project duration.

## Advancement Handbook for CM2

General BU <i>Skill Area</i>	<b>Construction Combat Readiness</b>
A <i>skill</i> you are expected to perform from the General Skill Area above:	<b>Conduct Patrols</b>
<i>Knowledge</i> you should have to perform this skill:	<p>Explain the requirements and procedures for conducting patrols to include the following:</p> <ul style="list-style-type: none"> <li>• Planning and preparation</li> <li>• Classification</li> <li>• Mission</li> <li>• Size</li> <li>• Formation</li> <li>• Control</li> <li>• Security</li> <li>• Movement</li> <li>• Execution of mission</li> </ul>
<i>References</i> you should study to gain the knowledge you need to perform this skill:	<ul style="list-style-type: none"> <li>• Seabee Combat Handbook, Volume 1, NAVEDTRA 12003</li> </ul>
<i>Exam Expectations.</i> These are subject areas you should know to help you answer exam questions correctly:	You can expect questions about the procedures used to conduct patrols, such as planning and preparation, patrol classification, mission, size, formation, control, security, movement, and execution of mission (before, during, and after).

## Advancement Handbook for CM2

General CM <i>Skill Area</i>	<b>Construction Combat Readiness</b>
A <i>skill</i> you are expected to perform from the General Skill Area above:	<b>Perform duties of fire team leader</b>
<i>Knowledge</i> you should have to perform this skill:	<p>Explain the duties and responsibilities of a fire team leader to include the following:</p> <ul style="list-style-type: none"> <li>• Mission</li> <li>• Defensive position</li> <li>• Fire plans</li> <li>• Movement</li> <li>• Formation</li> </ul>
<i>References</i> you should study to gain the knowledge you need to perform this skill:	<ul style="list-style-type: none"> <li>• Seabee Combat Handbook, Volume 1, NAVEDTRA 12003</li> <li>• Seabee Combat Handbook, Volume 2, NAVEDTRA 12004</li> </ul>
<i>Exam Expectations.</i> These are subject areas you should know to help you answer exam questions correctly:	You can expect questions about the duties of a fire team leader, the mission, positioning of a fire team on the FLOT, fire plans, movements, and formations.

## Advancement Handbook for CM2

General CM <i>Skill Area</i>	<b>Construction Combat Readiness</b>
A <i>skill</i> you are expected to perform from the General Skill Area above:	<b>Perform duties of machine gun team leader</b>
<i>Knowledge</i> you should have to perform this skill:	<p>Explain the duties and responsibilities of a machine gun team leader to include the following:</p> <ul style="list-style-type: none"> <li>• Weapon characteristics</li> <li>• Weapon placement</li> <li>• Fire plan</li> <li>• Fire command</li> <li>• Fire control</li> <li>• Fire discipline</li> <li>• Fire distribution</li> <li>• Fire technique</li> <li>• Team member responsibility</li> </ul>
<i>References</i> you should study to gain the knowledge you need to perform this skill:	<ul style="list-style-type: none"> <li>• Seabee Combat Handbook, Volume 1, NAVEDTRA 12003</li> </ul>
<i>Exam Expectations.</i> These are subject areas you should know to help you answer exam questions correctly:	You can expect questions about performing the duties and responsibilities of a machine gun team leader and knowing the characteristics and placement of the weapon, fire plans, fire commands, fire control, fire discipline, fire distribution, fire technique, and the responsibility of each member of the fire team.

## Advancement Handbook for CM2

General CM <i>Skill Area</i>	<b>Construction Combat Readiness</b>
A <i>skill</i> you are expected to perform from the General Skill Area above:	<b>Perform duties of antitank team leader</b>
<i>Knowledge</i> you should have to perform this skill:	<p>Recall the duties and responsibilities of an antitank team leader to include the following:</p> <ul style="list-style-type: none"> <li>• Weapon characteristics</li> <li>• Employment</li> <li>• Operation</li> <li>• Safety</li> </ul>
<i>References</i> you should study to gain the knowledge you need to perform this skill:	<ul style="list-style-type: none"> <li>• Seabee Combat Handbook, Volume 1, NAVEDTRA 12003</li> <li>• Seabee Combat Handbook, Volume 2, NAVEDTRA 12004</li> </ul>
<i>Exam Expectations.</i> These are subject areas you should know to help you answer exam questions correctly:	You can expect questions about the duties and responsibilities of an antitank team leader; weapon characteristics; employment and operation of the weapon; and weapon safety.

## Advancement Handbook for CM2

General CM <i>Skill Area</i>	<b>Construction Combat Readiness</b>
A <i>skill</i> you are expected to perform from the General Skill Area above:	<b>Employ claymore mines</b>
<i>Knowledge</i> you should have to perform this skill:	<p>Explain the procedures used for employment of the M18A1 claymore mine to include the following:</p> <ul style="list-style-type: none"> <li>• Nomenclature</li> <li>• Countermeasures</li> <li>• Coverage and methods of fire</li> <li>• Firing device</li> <li>• Installation</li> <li>• Firing</li> </ul>
<i>References</i> you should study to gain the knowledge you need to perform this skill:	<ul style="list-style-type: none"> <li>• Seabee Combat Handbook, Volume 1, NAVEDTRA 12003</li> </ul>
<i>Exam Expectations.</i> These are subject areas you should know to help you answer exam questions correctly:	You can expect questions about employment of the M18A1 claymore mine; mine nomenclature; countermeasures; coverage; methods of fire; firing device; installation; and firing.

## Advancement Handbook for CM2

General CM <i>Skill Area</i>	<b>Construction Combat Readiness</b>
A <i>skill</i> you are expected to perform from the General Skill Area above:	<b>Position perimeter guards</b>
<i>Knowledge</i> you should have to perform this skill:	<p>Identify the procedures for positioning perimeter guards to include the following:</p> <ul style="list-style-type: none"> <li>• Fighting positions</li> <li>• Fields of fire</li> <li>• Fire distribution</li> </ul>
<i>References</i> you should study to gain the knowledge you need to perform this skill:	<ul style="list-style-type: none"> <li>• Seabee Combat Handbook, Volume 1, NAVEDTRA 12003</li> </ul>
<i>Exam Expectations.</i> These are subject areas you should know to help you answer exam questions correctly:	You can expect questions about maximum cover and concealment, constructing a defensive position, dug-in emplacements, observation, fields of fire, rifle fire, platoon firing, and extent of target.

## Advancement Handbook for CM2

General CM <i>Skill Area</i>	<b>Construction Combat Readiness</b>
A <i>skill</i> you are expected to perform from the General Skill Area above:	<b>Lay out protective and tactical wire entanglements</b>
<i>Knowledge</i> you should have to perform this skill:	<p>Explain the requirements and procedures used in placing protective and tactical wire entanglements to include the following:</p> <ul style="list-style-type: none"> <li>• Supplementary</li> <li>• Depth</li> <li>• Effectiveness</li> <li>• Uses</li> <li>• Barbed wire</li> <li>• Concertina fencing</li> <li>• Barbed steel tape</li> <li>• Placement</li> </ul>
<i>References</i> you should study to gain the knowledge you need to perform this skill:	<ul style="list-style-type: none"> <li>• Seabee Combat Handbook, Volume 1, NAVEDTRA 12003</li> </ul>
<i>Exam Expectations.</i> These are subject areas you should know to help you answer exam questions correctly:	<p>You can expect questions about the requirements and procedures used in placing protective and tactical wire entanglements, supplementary wire, depth, effectiveness, uses, and different wire used, such as placing barbed wire, concertina wire, and barbed steel tape.</p>



## Advancement Handbook for CM2

General CM <i>Skill Area</i>	<b>Construction Combat Readiness</b>
A <i>skill</i> you are expected to perform from the General Skill Area above:	<b>Lay out trip flares and other warning devices</b>
<i>Knowledge</i> you should have to perform this skill:	Explain the procedures used to set trip flares and warning devices to include the following: <ul style="list-style-type: none"><li>• Uses</li><li>• Location</li><li>• Explosive devices</li><li>• Nonexplosive devices</li><li>• Countermeasures</li></ul>
<i>References</i> you should study to gain the knowledge you need to perform this skill:	<ul style="list-style-type: none"><li>• Seabee Combat Handbook, Volume 1, NAVEDTRA 12003</li></ul>
<i>Exam Expectations.</i> These are subject areas you should know to help you answer exam questions correctly:	You can expect questions about trip flares and warning devices, their uses, location, explosive and nonexplosive devices, and countermeasures.

## Advancement Handbook for CM2

General CM <i>Skill Area</i>	<b>Construction Combat Readiness</b>
A <i>skill</i> you are expected to perform from the General Skill Area above:	<b>Perform duties of mortar crew leader/gunner</b>
<i>Knowledge</i> you should have to perform this skill:	<p>Recall the duties and responsibilities of mortar crew leader and gunner to include the following:</p> <ul style="list-style-type: none"> <li>• Characteristics of the 60mm mortar</li> <li>• Assemblies and components</li> <li>• Ammunition</li> <li>• Equipment</li> <li>• Positioning</li> <li>• Preparation for firing</li> <li>• Sighting</li> <li>• Loading</li> <li>• Firing</li> <li>• Safety precautions</li> </ul>
<i>References</i> you should study to gain the knowledge you need to perform this skill:	<ul style="list-style-type: none"> <li>• Seabee Combat Handbook, Volume 1, NAVEDTRA 12003</li> </ul>
<i>Exam Expectations.</i> These are subject areas you should know to help you answer exam questions correctly:	<p>You can expect questions about the duties and responsibilities of a mortar crew leader or gunner; description and characteristics of the weapon; assemblies and components; ammunition; equipment; positioning; preparation for firing; sighting; loading; firing; and safety.</p>

## Advancement Handbook for CM2

General CM <i>Skill Area</i>	<b>Construction Combat Readiness</b>
A <i>skill</i> you are expected to perform from the General Skill Area above:	<b>Maneuver fire team using arm and hand signals</b>
<i>Knowledge</i> you should have to perform this skill:	<p>Describe the procedures to maneuver fire teams using arm and hand signals to include the following:</p> <ul style="list-style-type: none"> <li>• Speed</li> <li>• Direction</li> <li>• Enemy in sight</li> <li>• Assemble</li> <li>• Column</li> <li>• Echelons</li> <li>• Wedge</li> <li>• Vee</li> <li>• Fire team</li> <li>• Open</li> <li>• Close</li> <li>• Rally point</li> <li>• Objective rally point</li> </ul>
<i>References</i> you should study to gain the knowledge you need to perform this skill:	<ul style="list-style-type: none"> <li>• Seabee Combat Handbook, Volume 1, NAVEDTRA 12003</li> </ul>
<i>Exam Expectations.</i> These are subject areas you should know to help you answer exam questions correctly:	You can expect questions about maneuvering fire teams using arm and hand signals and fire team positions.

## Advancement Handbook for CM2

General CM <i>Skill Area</i>	<b>Internal Combustion Engines</b>
A <i>skill</i> you are expected to perform from the General Skill Area above:	<b>Repair blowers and turbochargers</b>
<i>Knowledge</i> you should have to perform this skill:	Recall procedures for repairing blowers and turbochargers.
<i>References</i> you should study to gain the knowledge you need to perform this skill:	<ul style="list-style-type: none"><li>• Construction Mechanic Basic, Volume 1, NAVEDTRA 11010</li><li>• TM9-8000, Principles of Automotive Vehicles</li><li>• Modern Automotive Technology</li></ul>
<i>Exam Expectations.</i> These are subject areas you should know to help you answer exam questions correctly:	You can expect questions on repairing turbochargers and blowers to include procedures and tools required.

## Advancement Handbook for CM2

General CM <i>Skill Area</i>	<b>Internal Combustion Engines</b>
A <i>skill</i> you are expected to perform from the General Skill Area above:	<b>Service engine valve trains</b>
<i>Knowledge</i> you should have to perform this skill:	<p>Recall procedures for servicing and replacing components of valve trains to include the following:</p> <ul style="list-style-type: none"> <li>• Grind engine valve seats</li> <li>• Replace components of valve train assemblies and gears</li> <li>• Replace engine valves and seats</li> </ul>
<i>References</i> you should study to gain the knowledge you need to perform this skill:	<ul style="list-style-type: none"> <li>• Construction Mechanic Basic, Volume 1, NAVEDTRA 11010</li> <li>• TM9-8000, Principles of Automotive Vehicles</li> <li>• Modern Automotive Technology</li> </ul>
<i>Exam Expectations.</i> These are subject areas you should know to help you answer exam questions correctly:	You can expect questions on servicing valve trains and replacing components of valve trains.

## Advancement Handbook for CM2

General CM <i>Skill Area</i>	<b>Internal Combustion Engines</b>
A <i>skill</i> you are expected to perform from the General Skill Area above:	<b>Overhaul internal combustion engines</b>
<i>Knowledge</i> you should have to perform this skill:	<p>Recall procedures for overhauling internal combustion engines to include the following:</p> <ul style="list-style-type: none"> <li>• Replace cylinder sleeves</li> <li>• Replace camshaft bearings</li> <li>• Replace engine crankshafts</li> <li>• Replace connecting rods and main bearings</li> <li>• Replace pistons and rings</li> </ul>
<i>References</i> you should study to gain the knowledge you need to perform this skill:	<ul style="list-style-type: none"> <li>• Construction Mechanic Basic, Volume 1, NAVEDTRA 11010</li> <li>• TM9-8000, Principles of Automotive Vehicles</li> <li>• Modern Automotive Technology</li> </ul>
<i>Exam Expectations.</i> These are subject areas you should know to help you answer exam questions correctly:	You can expect questions on the procedures for overhauling an internal combustion engine.

## Advancement Handbook for CM2

General CM <i>Skill Area</i>	<b>Internal Combustion Engines</b>
A <i>skill</i> you are expected to perform from the General Skill Area above:	<b>Replace carburetors</b>
<i>Knowledge</i> you should have to perform this skill:	Recall procedures for replacing carburetors to include the following: <ul style="list-style-type: none"><li>• Replace carburetors</li><li>• Rebuild carburetors</li><li>• Adjust governors</li></ul>
<i>References</i> you should study to gain the knowledge you need to perform this skill:	<ul style="list-style-type: none"><li>• Construction Mechanic Basic, Volume 1, NAVEDTRA 11010</li><li>• TM9-8000 Principles of Automotive Vehicles</li><li>• Modern Automotive Technology</li></ul>
<i>Exam Expectations.</i> These are subject areas you should know to help you answer exam questions correctly:	You can expect questions on rebuilding and replacing carburetors and adjusting governors.

## Advancement Handbook for CM2

General CM <i>Skill Area</i>	<b>Power Trains</b>
A <i>skill</i> you are expected to perform from the General Skill Area above:	<b>Repair and replace power train components and subassemblies</b>
<i>Knowledge</i> you should have to perform this skill:	<p>Recall procedures for repairing and replacing power train components and subassemblies to include the following:</p> <ul style="list-style-type: none"> <li>• Auxiliary transmissions</li> <li>• Transfer cases</li> <li>• Winch assemblies</li> <li>• Torque converters</li> <li>• Final drive units</li> <li>• Transmission bands</li> <li>• Transfer case malfunctions</li> <li>• Winches and power takeoff units</li> </ul>
<i>References</i> you should study to gain the knowledge you need to perform this skill:	<ul style="list-style-type: none"> <li>• Construction Mechanic Basic, Volume 2, NAVEDTRA 11011</li> <li>• TM9-8000, Principles of Automotive Vehicles</li> <li>• Modern Automotive Technology</li> </ul>
<i>Exam Expectations.</i> These are subject areas you should know to help you answer exam questions correctly:	You can expect questions on repairing and replacing power train components and subassemblies.



## Advancement Handbook for CM2

General CM <i>Skill Area</i>	<b>Power Trains</b>
A <i>skill</i> you are expected to perform from the General Skill Area above:	<b>Replace tracks</b>
<i>Knowledge</i> you should have to perform this skill:	Recall procedures for replacing tracks on construction equipment to include replacing master pins.
<i>References</i> you should study to gain the knowledge you need to perform this skill:	<ul style="list-style-type: none"><li>• Construction Mechanic Basic, Volume 2, NAVEDTRA 11011</li></ul>
<i>Exam Expectations.</i> These are subject areas you should know to help you answer exam questions correctly:	You can expect questions on replacing tracks and master pins.

## Advancement Handbook for CM2

General CM <i>Skill Area</i>	<b>Fuel Systems</b>
A <i>skill</i> you are expected to perform from the General Skill Area above:	<b>Replace gasoline fuel injection system components</b>
<i>Knowledge</i> you should have to perform this skill:	Recall procedures for replacing fuel injection system components.
<i>References</i> you should study to gain the knowledge you need to perform this skill:	<ul style="list-style-type: none"><li>• Construction Mechanic Basic, Volume 1, NAVEDTRA 11010</li><li>• Modern Automotive Technology</li></ul>
<i>Exam Expectations.</i> These are subject areas you should know to help you answer exam questions correctly:	You can expect questions on replacing fuel injection system components.

## Advancement Handbook for CM2

General CM <i>Skill Area</i>	<b>Fuel Systems</b>
A <i>skill</i> you are expected to perform from the General Skill Area above:	<b>Repair, replace, and adjust diesel fuel system components</b>
<i>Knowledge</i> you should have to perform this skill:	<p>Recall procedures for replacing, repairing, and adjusting diesel fuel system components to include the following:</p> <ul style="list-style-type: none"> <li>• Adjust diesel fuel system racks</li> <li>• Repair fuel injectors</li> <li>• Adjust fuel injector pumps</li> <li>• Replace fuel injector nozzles</li> <li>• Repair governor control units</li> </ul>
<i>References</i> you should study to gain the knowledge you need to perform this skill:	<ul style="list-style-type: none"> <li>• Construction Mechanic Basic, Volume 1, NAVEDTRA 11010</li> <li>• Modern Automotive Technology</li> <li>• TM9-8000, Principles of Automotive Vehicles</li> </ul>
<i>Exam Expectations.</i> These are subject areas you should know to help you answer exam questions correctly:	You can expect questions about repairing, replacing, and adjusting the diesel fuel system components.

## Advancement Handbook for CM2

General CM <i>Skill Area</i>	<b>Hydraulic/Pneumatic Maintenance</b>
A <i>skill</i> you are expected to perform from the General Skill Area above:	<b>Repair, replace, and adjust hydraulic system components</b>
<i>Knowledge</i> you should have to perform this skill:	<p>Recall procedures for repairing, replacing, and adjusting hydraulic system components to include the following:</p> <ul style="list-style-type: none"> <li>• Rams and actuators</li> <li>• Hydraulic pressure regulators</li> <li>• Hydraulic pumps and motors</li> <li>• Hydraulic control valves assemblies</li> <li>• Hydraulic accumulators</li> </ul>
<i>References</i> you should study to gain the knowledge you need to perform this skill:	<ul style="list-style-type: none"> <li>• Construction Mechanic Basic, Volume 2, NAVEDTRA 11011</li> <li>• TM9-8000, Principles of Automotive Vehicles</li> <li>• Fluid Power, NAVEDTRA 12964</li> </ul>
<i>Exam Expectations.</i> These are subject areas you should know to help you answer exam questions correctly:	You can expect questions about procedures for the repair of hydraulic system components.

## Advancement Handbook for CM2

General CM <i>Skill Area</i>	<b>Hydraulic/Pneumatic Maintenance</b>
A <i>skill</i> you are expected to perform from the General Skill Area above:	<b>Repair and adjust reciprocating rotary and screw type air compressors</b>
<i>Knowledge</i> you should have to perform this skill:	Recall procedures for repairing and adjusting air compressors to include repairing and adjusting air compressor controls.
<i>References</i> you should study to gain the knowledge you need to perform this skill:	<ul style="list-style-type: none"><li>• Construction Mechanic Basic, Volume 2, NAVEDTRA 11011</li><li>• Fluid Power, NAVEDTRA 12964</li></ul>
<i>Exam Expectations.</i> These are subject areas you should know to help you answer exam questions correctly:	You can expect questions on repairing and adjusting air compressors and controls.

## Advancement Handbook for CM2

General CM <i>Skill Area</i>	<b>Cooling Systems</b>
A <i>skill</i> you are expected to perform from the General Skill Area above:	<b>Diagnose cooling system malfunctions</b>
<i>Knowledge</i> you should have to perform this skill:	Recall procedures for diagnosing cooling system malfunctions.
<i>References</i> you should study to gain the knowledge you need to perform this skill:	<ul style="list-style-type: none"><li>• Construction Mechanic Basic, Volume 1, NAVEDTRA 11010</li><li>• TM9-8000, Principles of Automotive Vehicles</li><li>• Modern Automotive Technology</li></ul>
<i>Exam Expectations.</i> These are subject areas you should know to help you answer exam questions correctly:	You can expect questions on diagnosing cooling system malfunctions.

## Advancement Handbook for CM2

General CM <i>Skill Area</i>	<b>Electrical/Electronic Systems</b>
A <i>skill</i> you are expected to perform from the General Skill Area above:	<b>Test, inspect, adjust and repair cranking and charging systems</b>
<i>Knowledge</i> you should have to perform this skill:	<p>Recall procedures for testing and repairing cranking and charging systems to include the following:</p> <ul style="list-style-type: none"> <li>• Adjusting voltage regulators</li> <li>• Turn down armatures</li> <li>• Undercut commutator mica</li> <li>• Repair glow plug circuitry</li> </ul>
<i>References</i> you should study to gain the knowledge you need to perform this skill:	<ul style="list-style-type: none"> <li>• Construction Mechanic Basic, Volume 2, NAVEDTRA 11011</li> <li>• TM9-8000, Principles of Automotive Vehicles</li> <li>• Modern Automotive Technology</li> </ul>
<i>Exam Expectations.</i> These are subject areas you should know to help you answer exam questions correctly:	You can expect questions about inspecting, testing, repairing, and adjusting cranking and charging systems and related components.

## Advancement Handbook for CM2

General CM <i>Skill Area</i>	<b>Electrical/Electronic Systems</b>
A <i>skill</i> you are expected to perform from the General Skill Area above:	<b>Test electrical wires and wiring harnesses</b>
<i>Knowledge</i> you should have to perform this skill:	Recall procedures for testing wires and wiring harnesses and replacing instruments and gauges.
<i>References</i> you should study to gain the knowledge you need to perform this skill:	<ul style="list-style-type: none"><li>• Construction Mechanic Basic, Volume 2, NAVEDTRA 11011</li><li>• Modern Automotive Technology</li><li>• TM9-8000, Principles of Automotive Vehicles</li></ul>
<i>Exam Expectations.</i> These are subject areas you should know to help you answer exam questions correctly:	You can expect questions on replacing and repairing wiring and replacing instruments and gauges.



## Advancement Handbook for CM2

General CM <i>Skill Area</i>	<b>Chassis and Bodies</b>
A <i>skill</i> you are expected to perform from the General Skill Area above:	<b>Repair track frame assemblies</b>
<i>Knowledge</i> you should have to perform this skill:	Recall procedures for repairing track frame assemblies on construction equipment.
<i>References</i> you should study to gain the knowledge you need to perform this skill:	<ul style="list-style-type: none"><li>• Construction Mechanic Basic, Volume 2, NAVEDTRA 11011</li></ul>
<i>Exam Expectations.</i> These are subject areas you should know to help you answer exam questions correctly:	You can expect questions on repairing track frame assemblies.

## Advancement Handbook for CM2

General CM <i>Skill Area</i>	<b>Chassis and Bodies</b>
A <i>skill</i> you are expected to perform from the General Skill Area above:	<b>Repair, replace, and adjust steering components</b>
<i>Knowledge</i> you should have to perform this skill:	<p>Recall procedures for replacing, repairing, and adjusting steering components to include the following:</p> <ul style="list-style-type: none"><li>• Repair steering boxes</li><li>• Repair and adjust power steering components</li><li>• Adjust manual steering units</li><li>• Replace rack and pinion steering assemblies.</li><li>• Replace constant velocity joints</li><li>• Replace king pins and ball joints</li></ul>
<i>References</i> you should study to gain the knowledge you need to perform this skill:	<ul style="list-style-type: none"><li>• Construction Mechanic Basic, Volume 2, NAVEDTRA 11011</li><li>• Modern Automotive Technology</li><li>• TM9-8000, Principles of Automotive Vehicles</li></ul>
<i>Exam Expectations.</i> These are subject areas you should know to help you answer exam questions correctly:	You can expect questions about repairing, replacing, and adjusting steering components.

## Advancement Handbook for CM2

General CM <i>Skill Area</i>	<b>Chassis and Bodies</b>
A <i>skill</i> you are expected to perform from the General Skill Area above:	<b>Repair, replace, and adjust suspension components</b>
<i>Knowledge</i> you should have to perform this skill:	<p>Recall procedures for repairing, replacing, and/or adjusting suspension components to include the following:</p> <ul style="list-style-type: none"> <li>• Springs</li> <li>• McPherson struts</li> <li>• Torque arms</li> <li>• Trunnion bearings</li> </ul>
<i>References</i> you should study to gain the knowledge you need to perform this skill:	<ul style="list-style-type: none"> <li>• Construction Mechanic Basic, Volume 2, NAVEDTRA 11011</li> <li>• TM9-8000, Principles of Automotive Vehicles</li> <li>• Modern Automotive Technology</li> </ul>
<i>Exam Expectations.</i> These are subject areas you should know to help you answer exam questions correctly:	You can expect questions on replacing, repairing, and adjusting suspension components.

## Advancement Handbook for CM2

General CM <i>Skill Area</i>	<b>Brake Systems</b>
A <i>skill</i> you are expected to perform from the General Skill Area above:	<b>Repair, replace, and adjust brake system components</b>
<i>Knowledge</i> you should have to perform this skill:	<p>Recall procedures for repairing, replacing, and/or adjusting brake system components to include the following</p> <ul style="list-style-type: none"> <li>• Disc brake rotor assemblies</li> <li>• Caliper assemblies</li> <li>• Brake drums and rotors</li> <li>• Brake drums</li> <li>• Rotors</li> <li>• Air-hydraulic power cylinders</li> <li>• Hydraulic power boosters</li> <li>• Antilock brake systems</li> </ul>
<i>References</i> you should study to gain the knowledge you need to perform this skill:	<ul style="list-style-type: none"> <li>• Construction Mechanic Basic, Volume 2, NAVEDTRA 11011</li> <li>• Modern Automotive Technology</li> <li>• TM9-8000, Principles of Automotive Vehicles</li> </ul>
<i>Exam Expectations.</i> These are subject areas you should know to help you answer exam questions correctly:	You can expect questions about repairing, replacing, and adjusting components of brake systems.

## Part 3

### Advancement Handbook for CM1

## Advancement Handbook for CM1

General CM Skill Area	Technical Administration
A <i>skill</i> you are expected to perform from the General Skill Area above:	<b>Organize daily work assignments for team or crew leaders</b>
<i>Knowledge</i> you should have to perform this skill:	<p>Recall procedures for organizing daily work assignments to include the following:</p> <ul style="list-style-type: none"> <li>• Shops</li> <li>• Detachments</li> <li>• Crews</li> <li>• Working parties</li> <li>• Contingency operations</li> </ul>
<i>References</i> you should study to gain the knowledge you need to perform this skill:	<ul style="list-style-type: none"> <li>• Construction Mechanic Basic, Volume 1, NAVEDTRA 11010</li> <li>• Construction Mechanic Advanced, NAVEDTRA 12528</li> <li>• Equipment Maintenance Manual, COMSECOND/COMTHIRDNCCBINST 11200.1</li> <li>• Naval Construction Force/Seabee 1 &amp; C, NAVEDTRA 12543</li> </ul>
<i>Exam Expectations.</i> These are subject areas you should know to help you answer exam questions correctly:	You can expect questions on organizing daily work assignments for team or crew leaders.

## Advancement Handbook for CM1

General CM <i>Skill Area</i>	<b>Technical Administration</b>
A <i>skill</i> you are expected to perform from the General Skill Area above:	<b>Conduct Personal Readiness Capability Program (PRCP) interviews</b>
<i>Knowledge</i> you should have to perform this skill:	<p>Recall the requirements and procedures for conducting PRCP interviews to include the following:</p> <ul style="list-style-type: none"> <li>• Individual rating skills</li> <li>• Other skills</li> </ul>
<i>References</i> you should study to gain the knowledge you need to perform this skill:	<ul style="list-style-type: none"> <li>• NCF/Seabee 1 &amp; C, NAVEDTRA 12543</li> <li>• Personal Readiness Capability Program (PRCP), Volume I, NAVFAC P-458</li> <li>• PRCP, Volume II, NAVFAC P-458</li> <li>• Seabee Skills Assessment Manual, NAVFAC P-1105</li> </ul>
<i>Exam Expectations.</i> These are subject areas you should know to help you answer exam questions correctly:	You can expect questions about the requirements and procedures for conducting the various types of PRCP interviews.

## Advancement Handbook for CM1

General CM <i>Skill Area</i>	<b>Technical Administration</b>
<i>A skill</i> you are expected to perform from the General Skill Area above:	<b>Prepare work requests and job orders</b>
<i>Knowledge</i> you should have to perform this skill:	<p>Recall procedures for preparing and maintaining the following:</p> <ul style="list-style-type: none"> <li>• Work requests and job orders</li> <li>• Tickler systems</li> <li>• Visual status boards</li> </ul>
<i>References</i> you should study to gain the knowledge you need to perform this skill:	<ul style="list-style-type: none"> <li>• Construction Mechanic Advanced, NAVEDTRA 12528</li> <li>• Equipment Maintenance Manual, COMSECOND/COMTHIRDNCBINST 11200.1</li> <li>• Management of Civil Engineering Support Equipment, NAVFAC P-300</li> <li>• NCF/Seabee 1 &amp; C, NAVEDTRA 12543</li> </ul>
<i>Exam Expectations.</i> These are subject areas you should know to help you answer exam questions correctly:	You can expect questions about preparing and maintaining work requests, job orders, tickler systems, and visual status boards.



## Advancement Handbook for CM1

General CM <i>Skill Area</i>	<b>Management and Supervision</b>
A <i>skill</i> you are expected to perform from the General Skill Area above:	<b>Coordinate construction tasks assigned to equipment shops or detachments</b>
<i>Knowledge</i> you should have to perform this skill:	<p>Recall procedures involved in coordinating construction tasks assigned to equipment shops or detachments to include the following:</p> <ul style="list-style-type: none"> <li>• Shop planning</li> <li>• Maintenance scheduling</li> </ul>
<i>References</i> you should study to gain the knowledge you need to perform this skill:	<ul style="list-style-type: none"> <li>• NCF/Seabee 1 &amp; C, NAVEDTRA 12543</li> <li>• NAVFAC P-300</li> <li>• Organization and Functions of Public Works Departments, P-318</li> <li>• NAVFAC P-315</li> </ul>
<i>Exam Expectations.</i> These are subject areas you should know to help you answer exam questions correctly:	You can expect questions on tasking, planning, and scheduling for shops and detachments when coordinating assigned construction tasks.

## Advancement Handbook for CM1

General CM <i>Skill Area</i>	<b>Environmental Protection</b>
A <i>skill</i> you are expected to perform from the General Skill Area above:	<b>Control environmental pollution at naval construction force or public works (NCF/PW) work areas and shops</b>
<i>Knowledge</i> you should have to perform this skill:	<p>Recall procedures used to control environmental pollution in NCF units and public works shop areas to include the following:</p> <ul style="list-style-type: none"> <li>• Implement methods to control or minimize effects of oil and fuel spills</li> <li>• Monitor environmental control programs for compliance</li> </ul>
<i>References</i> you should study to gain the knowledge you need to perform this skill:	<ul style="list-style-type: none"> <li>• NCF/Seabee 1 &amp; C, NAVEDTRA 12543</li> <li>• Code of Federal Regulations, 29 CFR</li> <li>• NCF Occupational Safety and Health Program Manual</li> <li>• COMSECOND/COMTHIRDNCBINST 5100.1</li> <li>• Mishap Investigating and Reporting, OPNAVINST 5102.1</li> <li>• Oil spill control in Inland Waters and Harbors, NAVFAC P-908</li> <li>• Ground Water Pollution Control, DM 514</li> </ul>
<i>Exam Expectations.</i> These are subject areas you should know to help you answer exam questions correctly:	You can expect questions about the procedures and programs involved in environmental protection at NCF/PW work areas.

## Advancement Handbook for CM1

General CM <i>Skill Area</i>	<b>Construction Operations</b>
A <i>skill</i> you are expected to perform from the General Skill Area above:	<b>Direct and coordinate installation of Advanced Based Functional Component (ABFC) facilities</b>
<i>Knowledge</i> you should have to perform this skill:	<p>Recall procedures for directing and coordinating installation of ABFC facilities to include the following:</p> <ul style="list-style-type: none"> <li>• Field structures (sea huts, strong backs, troop housing, etc.)</li> <li>• K-spans</li> <li>• Towers and bunkers</li> <li>• Airfields</li> <li>• Operational facilities</li> <li>• Fuel storage areas</li> <li>• Fleet hospitals</li> <li>• Facilities</li> <li>• Piers and wharf facilities</li> <li>• Railroad facilities (to support fleet operations)</li> <li>• Communication facilities</li> </ul>
<i>References</i> you should study to gain the knowledge you need to perform this skill:	<ul style="list-style-type: none"> <li>• Facilities Planning Guide, Volume I, NAVFAC P-437</li> <li>• Facilities Planning Guide, Volume II, NAVFAC P-437</li> </ul>
<i>Exam Expectations.</i> These are subject areas you should know to help you answer exam questions correctly:	You can expect questions about the procedures used to construct field structures and to repair war damaged facilities, structures, and operational facilities.

## Advancement Handbook for CM1

General CM <i>Skill Area</i>	<b>Construction Combat Readiness</b>
A <i>skill</i> you are expected to perform from the General Skill Area above:	<b>Prepare rough maps, field sketches, and overlays</b>
<i>Knowledge</i> you should have to perform this skill:	<p>Explain the procedures used to prepare rough maps, field sketches, and overlays to include the following:</p> <ul style="list-style-type: none"> <li>• Cover and concealment</li> <li>• Obstacles</li> <li>• Avenues of approach</li> <li>• Panoramic</li> <li>• Topographic</li> <li>• Overlay uses</li> <li>• Register marks</li> </ul>
<i>References</i> you should study to gain the knowledge you need to perform this skill:	<ul style="list-style-type: none"> <li>• Seabee Combat Handbook, Volume 1, NAVEDTRA 12003</li> </ul>
<i>Exam Expectations.</i> These are subject areas you should know to help you answer exam questions correctly:	You can expect questions about the preparation and typical use of maps, field sketches, and overlays utilizing cover and concealment, showing obstacles and how to overcome them, avenues of approach, panoramic and topographic sketches and maps, and overlay requirements.

## Advancement Handbook for CM1

General CM <i>Skill Area</i>	<b>Construction Combat Readiness</b>
A <i>skill</i> you are expected to perform from the General Skill Area above:	<b>Perform the duties as rifle squad leader</b>
<i>Knowledge</i> you should have to perform this skill:	<p>Recall the duties and responsibilities of a rifle squad leader to include the following:</p> <ul style="list-style-type: none"> <li>• Ideal squad composition</li> <li>• Discipline</li> <li>• Appearance</li> <li>• Training</li> <li>• Control</li> <li>• Squad conduct</li> <li>• Weapons</li> <li>• Equipment</li> </ul>
<i>References</i> you should study to gain the knowledge you need to perform this skill:	<ul style="list-style-type: none"> <li>• Seabee Combat Handbook, Volume 1, NAVEDTRA 12003</li> </ul>
<i>Exam Expectations.</i> These are subject areas you should know to help you answer exam questions correctly:	You can expect questions about the duties and responsibilities of the rifle squad leader, the ideal number of personnel assigned, discipline, appearance, squad training, control, conduct, weapons, equipment, fire control, fire discipline, and squad movement.

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General CM <i>Skill Area</i>	<b>Construction Combat Readiness</b>
A <i>skill</i> you are expected to perform from the General Skill Area above:	<b>Perform duties of the rifle platoon guide</b>
<i>Knowledge</i> you should have to perform this skill:	<p>Recall the duties and responsibilities of the rifle platoon guide to include the following:</p> <ul style="list-style-type: none"> <li>• Administration</li> <li>• Supply and timely resupply</li> <li>• Casualty records</li> </ul>
<i>References</i> you should study to gain the knowledge you need to perform this skill:	<ul style="list-style-type: none"> <li>• Seabee Combat Handbook, Volume 1, NAVEDTRA 12003</li> </ul>
<i>Exam Expectations.</i> These are subject areas you should know to help you answer exam questions correctly:	You can expect questions about the duties and responsibilities of the rifle platoon guide, administration, supply, timely resupply, casualty reporting, and weapon assignment.

## Advancement Handbook for CM1

General CM <i>Skill Area</i>	<b>Construction Combat Readiness</b>
A <i>skill</i> you are expected to perform from the General Skill Area above:	<b>Perform duties of the rifle platoon petty officer</b>
<i>Knowledge</i> you should have to perform this skill:	<p>Recall the duties and responsibilities of a rifle platoon petty officer to include the following:</p> <ul style="list-style-type: none"> <li>• Assistant to the platoon commander</li> <li>• Squad position</li> <li>• Weapons qualification</li> </ul>
<i>References</i> you should study to gain the knowledge you need to perform this skill:	<ul style="list-style-type: none"> <li>• Seabee Combat Handbook, Volume 1, NAVEDTRA 12003</li> </ul>
<i>Exam Expectations.</i> These are subject areas you should know to help you answer exam questions correctly:	<p>You can expect questions about the duties and responsibilities of the rifle platoon petty officer, squad position, and weapons qualification. Also there may be questions about duties and responsibilities of the assistant platoon commander when acting as platoon commander in his/her absence.</p>

## Advancement Handbook for CM1

General CM <i>Skill Area</i>	<b>Construction Combat Readiness</b>
A <i>skill</i> you are expected to perform from the General Skill Area above:	<b>Perform duties of the machine gun squad leader</b>
<i>Knowledge</i> you should have to perform this skill:	<p>Recall the duties and responsibilities of the machine gun squad leader to include the following:</p> <ul style="list-style-type: none"> <li>• Selection and assignment of positions and targets</li> <li>• Weapons qualification</li> </ul>
<i>References</i> you should study to gain the knowledge you need to perform this skill:	<ul style="list-style-type: none"> <li>• Seabee Combat Handbook, Volume 1, NAVEDTRA 12003</li> </ul>
<i>Exam Expectations.</i> These are subject areas you should know to help you answer exam questions correctly:	You can expect questions about the duties and responsibilities of the machine gun squad leader, selecting and assigning positions and targets and weapons qualifications. His/her duties are also basically that of the rifle squad leader.



## Advancement Handbook for CM1

General CM <i>Skill Area</i>	<b>Construction Combat Readiness</b>
A <i>skill</i> you are expected to perform from the General Skill Area above:	<b>Perform duties of the antitank squad leader</b>
<i>Knowledge</i> you should have to perform this skill:	<p>Recall the duties and responsibilities of the antitank squad leader to include the following:</p> <ul style="list-style-type: none"> <li>• Basic duties</li> <li>• Selection and assignment of positions and targets</li> <li>• Weapons qualification</li> <li>• Other equipment</li> </ul>
<i>References</i> you should study to gain the knowledge you need to perform this skill:	<ul style="list-style-type: none"> <li>• Seabee Combat Handbook, Volume 1, NAVEDTRA 12003</li> </ul>
<i>Exam Expectations.</i> These are subject areas you should know to help you answer exam questions correctly:	You can expect questions about the duties and responsibilities of the antitank squad leader, the basic duties, selection of and assignment of positions and targets, weapons qualification, and other assigned duties.

## Advancement Handbook for CM1

General CM <i>Skill Area</i>	<b>Construction Combat Readiness</b>
A <i>skill</i> you are expected to perform from the General Skill Area above:	<b>Perform duties of the weapons platoon petty officer</b>
<i>Knowledge</i> you should have to perform this skill:	Recall the duties and responsibilities of the weapons platoon petty officer to include weapons qualification.
<i>References</i> you should study to gain the knowledge you need to perform this skill:	<ul style="list-style-type: none"> <li>• Seabee Combat Handbook, Volume 1, NAVEDTRA 12003</li> </ul>
<i>Exam Expectations.</i> These are subject areas you should know to help you answer exam questions correctly:	You can expect questions about the duties and responsibilities of the weapons platoon petty officer, weapons qualification, and other duties such as those described by the rifle platoon petty officer.

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General CM <i>Skill Area</i>	<b>Construction Combat Readiness</b>
A <i>skill</i> you are expected to perform from the General Skill Area above:	<b>Direct installation of protective and tactical wire entanglements</b>
<i>Knowledge</i> you should have to perform this skill:	Recall the requirements and procedures for placing protective and tactical wire entanglements to include the following: <ul style="list-style-type: none"><li>• Uses</li><li>• Construction</li><li>• Types</li><li>• Classification</li></ul>
<i>References</i> you should study to gain the knowledge you need to perform this skill:	<ul style="list-style-type: none"><li>• Seabee Combat Handbook, Volume 1, NAVEDTRA 12003</li></ul>
<i>Exam Expectations.</i> These are subject areas you should know to help you answer exam questions correctly:	You can expect questions about the installation of protective and tactical wire entanglements, their uses, construction, types, and classification.

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General CM <i>Skill Area</i>	<b>Construction Combat Readiness</b>
A <i>skill</i> you are expected to perform from the General Skill Area above:	<b>Instruct perimeter guards</b>
<i>Knowledge</i> you should have to perform this skill:	<p>Recall the requirements and procedures for instructing perimeter guards to include the following:</p> <ul style="list-style-type: none"> <li>• Fighting emplacements</li> <li>• Fields of fire</li> <li>• Fire distribution</li> </ul>
<i>References</i> you should study to gain the knowledge you need to perform this skill:	<ul style="list-style-type: none"> <li>• Seabee Combat Handbook, Volume 1, NAVEDTRA 12003</li> </ul>
<i>Exam Expectations.</i> These are subject areas you should know to help you answer exam questions correctly:	You can expect questions about maximum cover and concealment; constructing a defensive position of dug-in emplacements and observation posts; fields of fire, rifle fire, platoon firing, and extent of target.

## Advancement Handbook for CM1

General CM <i>Skill Area</i>	<b>Construction Combat Readiness</b>
<i>A skill</i> you are expected to perform from the General Skill Area above:	<b>Direct installation of trip flares and other warning devices</b>
<i>Knowledge</i> you should have to perform this skill:	<p>Recall the requirements for the placement of trip flares and other warning devices to include the following:</p> <ul style="list-style-type: none"> <li>• Grenades</li> <li>• Claymore mines</li> <li>• Trip flares</li> <li>• Booby traps</li> <li>• Explosive and nonexplosive devices</li> <li>• Countermeasures</li> </ul>
<i>References</i> you should study to gain the knowledge you need to perform this skill:	<ul style="list-style-type: none"> <li>• Seabee Combat Handbook, Volume 1, NAVEDTRA 12003</li> </ul>
<i>Exam Expectations.</i> These are subject areas you should know to help you answer exam questions correctly:	You can expect questions about trip flare countermeasures; also, questions about the requirements for placing trip flares and other warning devices, such as grenades, claymore mines, booby traps, and other explosive and nonexplosive devices.

## Advancement Handbook for CM1

General CM <i>Skill Area</i>	<b>Construction Combat Readiness</b>
A <i>skill</i> you are expected to perform from the General Skill Area above:	<b>Direct placement of aiming stakes</b>
<i>Knowledge</i> you should have to perform this skill:	Recall the requirements for the placement of aiming stakes to include the following: <ul style="list-style-type: none"> <li>• Placement</li> <li>• Limits</li> <li>• Night fire</li> </ul>
<i>References</i> you should study to gain the knowledge you need to perform this skill:	<ul style="list-style-type: none"> <li>• Seabee Combat Handbook, Volume 1, NAVEDTRA 12003</li> </ul>
<i>Exam Expectations.</i> These are subject areas you should know to help you answer exam questions correctly:	You can expect questions about the proper placement of aiming stakes.

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General CM <i>Skill Area</i>	<b>Internal Combustion Engines</b>
A <i>skill</i> you are expected to perform from the General Skill Area above:	<b>Diagnose internal combustion engine malfunctions</b>
<i>Knowledge</i> you should have to perform this skill:	Recall procedures for diagnosing internal combustion engine malfunctions.
<i>References</i> you should study to gain the knowledge you need to perform this skill:	<ul style="list-style-type: none"> <li>• Construction Mechanic Basic, Volume 1, NAVEDTRA 11010</li> <li>• Construction Mechanic Advanced, NAVEDTRA 12528</li> <li>• Modern Automotive Technology</li> <li>• TM9-8000, Principles of Automotive Vehicles</li> </ul>
<i>Exam Expectations.</i> These are subject areas you should know to help you answer exam questions correctly:	You can expect questions about diagnosing internal combustion engine malfunctions

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General CM <i>Skill Area</i>	<b>Internal Combustion Engines</b>
A <i>skill</i> you are expected to perform from the General Skill Area above:	<b>Overhaul internal combustion engines</b>
<i>Knowledge</i> you should have to perform this skill:	Recall procedures and techniques for overhauling internal combustion engines.
<i>References</i> you should study to gain the knowledge you need to perform this skill:	<ul style="list-style-type: none"> <li>• Construction Mechanic Basic, Volume 1, NAVEDTRA 11010</li> <li>• Construction Mechanic Advanced, NAVEDTRA 12528</li> <li>• Modern Automotive Technology</li> <li>• TM9-8000, Principles of Automotive Vehicles</li> </ul>
<i>Exam Expectations.</i> These are subject areas you should know to help you answer exam questions correctly:	You can expect questions about overhauling internal combustion engines.



## Advancement Handbook for CM1

General CM <i>Skill Area</i>	<b>Power Trains</b>
A <i>skill</i> you are expected to perform from the General Skill Area above:	<b>Diagnose and inspect power trains</b>
<i>Knowledge</i> you should have to perform this skill:	<p>Recall the procedures involved in inspecting and diagnosing power train malfunctions to include the following:</p> <ul style="list-style-type: none"> <li>• Automatic transmissions, torque converters, and power shift transmissions</li> <li>• Manual and auxiliary transmissions</li> <li>• Transmission alignments</li> <li>• Torque converter parts for wear</li> <li>• Drive line angles</li> <li>• Clutch system malfunctions</li> </ul>
<i>References</i> you should study to gain the knowledge you need to perform this skill:	<ul style="list-style-type: none"> <li>• Construction Mechanic Basic, Volume 2, NAVEDTRA 11011</li> <li>• Construction Mechanic Advanced, NAVEDTRA 12528</li> <li>• Modern Automotive Technology</li> <li>• TM9-8000, Principles of Automotive Vehicles</li> </ul>
<i>Exam Expectations.</i> These are subject areas you should know to help you answer exam questions correctly:	You can expect questions about diagnosing power train malfunctions.

## Advancement Handbook for CM1

General CM <i>Skill Area</i>	<b>Power Trains</b>
A <i>skill</i> you are expected to perform from the General Skill Area above:	<b>Adjust and replace components of power trains</b>
<i>Knowledge</i> you should have to perform this skill:	<p>Recall procedures for replacing and adjusting power train components to include the following:</p> <ul style="list-style-type: none"> <li>• Regulating valves on power shift transmissions</li> <li>• Components of automatic/power shift transmissions</li> <li>• Differentials</li> <li>• Components of differentials</li> </ul>
<i>References</i> you should study to gain the knowledge you need to perform this skill:	<ul style="list-style-type: none"> <li>• Construction Mechanic Basic, Volume 2, NAVEDTRA 11011</li> <li>• Construction Mechanic Advanced, NAVEDTRA 12528</li> <li>• Modern Automotive Technology</li> <li>• TM9-8000, Principles of Automotive Vehicles</li> </ul>
<i>Exam Expectations.</i> These are subject areas you should know to help you answer exam questions correctly:	You can expect questions on replacing and adjusting power train components.

## Advancement Handbook for CM1

General CM <i>Skill Area</i>	<b>Fuel Systems</b>
A <i>skill</i> you are expected to perform from the General Skill Area above:	<b>Overhaul fuel systems</b>
<i>Knowledge</i> you should have to perform this skill:	<p>Recall procedures for diagnosing, repairing, and inspecting fuel systems to include the following:</p> <ul style="list-style-type: none"> <li>• Diesel</li> <li>• Gasoline</li> <li>• Turbochargers</li> <li>• Blowers</li> </ul>
<i>References</i> you should study to gain the knowledge you need to perform this skill:	<ul style="list-style-type: none"> <li>• Construction Mechanic Basic, Volume 1, NAVEDTRA 11010</li> <li>• Construction Mechanic Advanced, NAVEDTRA 12528</li> <li>• Modern Automotive Technology</li> <li>• TM9-8000, Principles of Automotive Vehicles</li> </ul>
<i>Exam Expectations.</i> These are subject areas you should know to help you answer exam questions correctly:	You can expect questions about repairing, diagnosing, and overhauling diesel and gasoline fuel systems.

## Advancement Handbook for CM1

General CM <i>Skill Area</i>	<b>Hydraulic/Pneumatic Maintenance</b>
A <i>skill</i> you are expected to perform from the General Skill Area above:	<b>Diagnose hydraulic system malfunctions</b>
<i>Knowledge</i> you should have to perform this skill:	Recall procedures for diagnosing hydraulic system malfunctions to include pressure tests for the hydraulic systems on MHE and construction equipment.
<i>References</i> you should study to gain the knowledge you need to perform this skill:	<ul style="list-style-type: none"> <li>• Construction Mechanic Basic, Volume 2, NAVEDTRA 11011</li> <li>• Construction Mechanic Advanced, NAVEDTRA 12528</li> <li>• Fluid Power, NAVEDTRA 12964</li> </ul>
<i>Exam Expectations.</i> These are subject areas you should know to help you answer exam questions correctly:	You can expect questions on the diagnosis and testing of hydraulic systems to include pressure tests.

## Advancement Handbook for CM1

General CM <i>Skill Area</i>	<b>Hydraulic/Pneumatic System Maintenance</b>
A <i>skill</i> you are expected to perform from the General Skill Area above:	<b>Test reciprocating, rotary and screw type air compressors</b>
<i>Knowledge</i> you should have to perform this skill:	Recall procedures for testing air compressors including air compressor pressure controls.
<i>References</i> you should study to gain the knowledge you need to perform this skill:	<ul style="list-style-type: none"> <li>• Construction Mechanic Basic, Volume 2, NAVEDTRA 11011</li> <li>• Construction Mechanic Advanced, NAVEDTRA 12528</li> </ul>
<i>Exam Expectations.</i> These are subject areas you should know to help you answer exam questions correctly:	You can expect questions on testing reciprocating, rotary, and screw type air compressors.

## Advancement Handbook for CM1

General CM <i>Skill Area</i>	<b>Electrical/Electronic Systems</b>
<i>A skill</i> you are expected to perform from the General Skill Area above:	<b>Diagnose equipment electrical and electronic systems malfunctions</b>
<i>Knowledge</i> you should have to perform this skill:	<p>Recall procedures for diagnosing electrical and electronic malfunctions to include the following:</p> <ul style="list-style-type: none"> <li>• Charging systems</li> <li>• Cranking systems</li> <li>• Lighting systems</li> </ul>
<i>References</i> you should study to gain the knowledge you need to perform this skill:	<ul style="list-style-type: none"> <li>• Construction Mechanic Basic, Volume 2, NAVEDTRA 11011</li> <li>• Construction Mechanic Advanced, NAVEDTRA 12528</li> <li>• Modern Automotive Technology</li> <li>• TM9-8000, Principles of Automotive Vehicles</li> <li>• </li> </ul>
<i>Exam Expectations.</i> These are subject areas you should know to help you answer exam questions correctly:	You can expect questions on diagnosing equipment electrical and electronic systems malfunctions.

## Advancement Handbook for CM1

General CM <i>Skill Area</i>	<b>Chassis and Bodies</b>
A <i>skill</i> you are expected to perform from the General Skill Area above:	<b>Direct the operation of body repair shops</b>
<i>Knowledge</i> you should have to perform this skill:	Recall the requirements and procedures for directing the operation of body repair shops.
<i>References</i> you should study to gain the knowledge you need to perform this skill:	<ul style="list-style-type: none"> <li>• Construction Mechanic Advanced, NAVEDTRA 12528</li> <li>• Modern Automotive Technology</li> <li>• Equipment Maintenance Manual, COMSECOND/COMTHIRDNCBINST 11200.1</li> <li>• NAVFAC P-300</li> </ul>
<i>Exam Expectations.</i> These are subject areas you should know to help you answer exam questions correctly:	You can expect questions about the operation of body repair shops.

## Advancement Handbook for CM1

General CM <i>Skill Area</i>	<b>Chassis and Bodies</b>
A <i>skill</i> you are expected to perform from the General Skill Area above:	<b>Perform front-end alignments</b>
<i>Knowledge</i> you should have to perform this skill:	Recall the procedures for performing front-end alignments.
<i>References</i> you should study to gain the knowledge you need to perform this skill:	<ul style="list-style-type: none"><li>• Construction Mechanic Basic, Volume 2, NAVEDTRA 11011</li><li>• Construction Mechanic Advanced, NAVEDTRA 12528</li><li>• Modern Automotive Technology</li><li>• TM9-8000, Principles of Automotive Vehicles</li></ul>
<i>Exam Expectations.</i> These are subject areas you should know to help you answer exam questions correctly:	You can expect questions on performing front-end alignments.



## Advancement Handbook for CM1

General CM <i>Skill Area</i>	<b>Chassis and Bodies</b>
A <i>skill</i> you are expected to perform from the General Skill Area above:	<b>Inspect and align track frame assemblies</b>
<i>Knowledge</i> you should have to perform this skill:	Recall procedures for inspecting and aligning track frame assemblies.
<i>References</i> you should study to gain the knowledge you need to perform this skill:	<ul style="list-style-type: none"><li>• Construction Mechanic Basic, Volume 2, NAVEDTRA 11011</li><li>• Construction Mechanic Advanced, NAVEDTRA 12528</li></ul>
<i>Exam Expectations.</i> These are subject areas you should know to help you answer exam questions correctly:	You can expect questions on inspecting and aligning track frame assemblies.

## Advancement Handbook for CM1

General CM <i>Skill Area</i>	<b>Brake Systems</b>
A <i>skill</i> you are expected to perform from the General Skill Area above:	<b>Diagnose air, vacuum, and hydraulic brake systems</b>
<i>Knowledge</i> you should have to perform this skill:	Recall procedures for diagnosing brake systems to include antilock brake system components.
<i>References</i> you should study to gain the knowledge you need to perform this skill:	<ul style="list-style-type: none"> <li>• Construction Mechanic Basic, Volume 2, NAVEDTRA 11011</li> <li>• Construction Mechanic Advanced, NAVEDTRA 12528</li> <li>• Modern Automotive Technology</li> <li>• TM9-8000, Principles of Automotive Vehicles</li> </ul>
<i>Exam Expectations.</i> These are subject areas you should know to help you answer exam questions correctly:	You can expect questions about the procedures for diagnosing the various types of brake systems.

## Part 4

### Advancement Handbook for CMC

## Advancement Handbook for CMC

General CM <i>Skill Area</i>	<b>Technical Administration</b>
<i>A skill</i> you are expected to perform from the General Skill Area above:	<b>Administer the Personnel Readiness Capability Program (PRCP)</b>
<i>Knowledge</i> you should have to perform this skill:	Recall the requirements and procedures for administering PRCP programs and determining training requirements based on PRCP data.
<i>References</i> you should study to gain the knowledge you need to perform this skill:	<ul style="list-style-type: none"> <li>• NCF/Seabee 1 &amp; C, NAVEDTRA 12543</li> <li>• Personnel Readiness Capability Program, Volume II, NAVFAC P-458</li> <li>• Seabee Skills Assessment Manual, NAVFAC P-1105</li> </ul>
<i>Exam Expectations.</i> These are subject areas you should know to help you answer exam questions correctly:	You can expect questions on the types of PRCP and use of PRCP data.

## Advancement Handbook for CMC

General CM <i>Skill Area</i>	<b>Management and Supervision</b>
A <i>skill</i> you are expected to perform from the General Skill Area above:	<b>Coordinate construction tasks assigned to detachments</b>
<i>Knowledge</i> you should have to perform this skill:	Recall procedures for coordinating construction tasks assigned to detachments and companies including coordinating preparation of material and equipment for embarkation.
<i>References</i> you should study to gain the knowledge you need to perform this skill:	<ul style="list-style-type: none"> <li>• NCF/Seabee 1 &amp; C, NAVEDTRA 12543</li> <li>• Seabee Crewleader's Handbook</li> <li>• Code of Federal Regulations, 29 CFR</li> <li>• Equipment Maintenance Manual, COMSECOND/COMTHIRDNCBINST 11200.1</li> <li>• NCF Occupational Safety and Health Program Manual</li> <li>• Equipment Operator Advanced, NAVEDTRA 12537</li> </ul>
<i>Exam Expectations.</i> These are subject areas you should know to help you answer exam questions correctly:	You can expect questions on coordinating construction tasks.

## Advancement Handbook for CMC

General CM <i>Skill Area</i>	<b>Management and Supervision</b>
A <i>skill</i> you are expected to perform from the General Skill Area above:	<b>Coordinate and direct equipment maintenance shops</b>
<i>Knowledge</i> you should have to perform this skill:	<p>Recall procedures for coordinating and directing equipment maintenance shops to include the following:</p> <ul style="list-style-type: none"> <li>• Operation of equipment services</li> <li>• Maintenance of equipment services</li> <li>• Update civil engineer support equipment (CESE) allowance records</li> <li>• Operation of transportation services</li> <li>• Maintenance of transportation services</li> <li>• Policy statements, operation orders, and directives</li> <li>• Utilities and energy conservation programs</li> </ul>
<i>References</i> you should study to gain the knowledge you need to perform this skill:	<ul style="list-style-type: none"> <li>• Naval Safety Supervisor, NAVEDTRA 12971</li> <li>• Navy Safety Precautions for Forces Afloat, Volume I and Volume II, OPNAVINST 5100.19</li> <li>• COMSECOND/COMTHIRDNCBINST 11200.1</li> <li>• Organization and Functions for Public Works Departments, NAVFAC P-318</li> <li>• Management of Transportation Equipment, P-300</li> <li>• NCF/Seabee 1 &amp; C, NAVEDTRA 12543</li> <li>• Equipment Operator Advanced, NAVEDTRA 12537</li> </ul>
<i>Exam Expectations.</i> These are subject areas you should know to help you answer exam questions correctly.	You can expect questions on the procedures for coordinating and directing equipment maintenance shops in the NCF.

## Advancement Handbook for CMC

General CM <i>Skill Area</i>	<b>Environmental Protection</b>
A <i>skill</i> you are expected to perform from the General Skill Area above:	<b>Manage environmental protection programs at Naval Construction Force/Public works (NCF/PW) construction sites, work areas and shops</b>
<i>Knowledge</i> you should have to perform this skill:	<p>Recall the procedures for monitoring environmental programs for compliance to include the following:</p> <ul style="list-style-type: none"> <li>• Administration of environmental protection control programs</li> <li>• MSDS</li> <li>• Hazardous warning markings and labels</li> <li>• Hazardous material storage and turn-in</li> <li>• Hazardous spill reporting and cleanup</li> </ul>
<i>References</i> you should study to gain the knowledge you need to perform this skill:	<ul style="list-style-type: none"> <li>• NCF/Seabee 1 &amp; C, NAVEDTRA 12543</li> <li>• Code of Federal Regulations, 29 CFR</li> <li>• NCF Occupational Safety and Health Program Manual</li> <li>• COMSECOND/COMTHIRDNCBINST 5100.1</li> <li>• Mishap Investigating and Reporting, OPNAVINST 5102.1</li> <li>• HAZMAT Control and Management, OPNAVINST 4110.2</li> </ul>
<i>Exam Expectations.</i> These are subject areas you should know to help you answer exam questions correctly:	You can expect questions about the correct storage, handling, usage, and disposition of hazardous material and waste; hazardous spill prevention, reporting, and cleanup.

## Advancement Handbook for CMC

General CM <i>Skill Area</i>	<b>Construction Operations</b>
A <i>skill</i> you are expected to perform from the General Skill Area above:	<b>Direct and coordinate the installation of Advanced Base Functional Components (ABFC)</b>
<i>Knowledge</i> you should have to perform this skill:	<p>Recall the procedures for directing and coordinating installation of ABFC facilities to include the following:</p> <ul style="list-style-type: none"> <li>• Field structures (sea huts, strong backs, troop housing, etc.)</li> <li>• K-spans</li> <li>• Towers and bunkers</li> <li>• Airfields</li> <li>• Operational facilities</li> <li>• Fuel storage areas</li> <li>• Fleet hospitals</li> <li>• Facilities</li> <li>• Piers and wharf facilities</li> <li>• Railroad facilities (to support fleet operations)</li> <li>• Communication facilities</li> </ul>
<i>References</i> you should study to gain the knowledge you need to perform this skill:	<ul style="list-style-type: none"> <li>• Facilities Planning Guide, Volume I NAVFAC P-437</li> <li>• Facilities Planning Guide, Volume II, NAVFAC P-437</li> </ul>
<i>Exam Expectations.</i> These are subject areas you should know to help you answer exam questions correctly:	You can expect questions about the procedures for constructing field structures, K-spans, towers and bunkers; repairing war damaged structures and facilities such as airfields, operational facilities, POL pipelines, fuel storage areas, fleet hospitals, railroads and communication facilities.



## Advancement Handbook for CMC

General CM <i>Skill Area</i>	<b>Quality Assurance</b>
A <i>skill</i> you are expected to perform from the General Skill Area above:	<b>Administer construction control programs</b>
<i>Knowledge</i> you should have to perform this skill:	<p>Recall procedures for administering a quality control (QC) plan to include the following:</p> <ul style="list-style-type: none"> <li>• QC plan</li> <li>• QC inspections</li> <li>• QC preparatory meetings</li> <li>• Proper construction methods</li> <li>• Required training</li> <li>• FARs</li> <li>• DCDs</li> </ul>
<i>References</i> you should study to gain the knowledge you need to perform this skill:	<ul style="list-style-type: none"> <li>• NCF/Seabee 1 &amp; C, NAVEDTRA 12543</li> <li>• Seabee Crew Leader's Handbook</li> <li>• Code of Federal Regulations, 29 CFR</li> <li>• NCF Occupational Safety and Health Program Manual</li> <li>• COMSECOND/COMTHIRDNCBINST 5100.1</li> </ul>
<i>Exam Expectations.</i> These are subject areas you should know to help you answer exam questions correctly:	You can expect questions on QC plans, inspections, and preparatory meetings; ensuring proper construction and safety procedures are being adhered to; submit FARs and DCDs to the ROICC and ensure all required training takes place.

## Advancement Handbook for CMC

General CM <i>Skill Area</i>	<b>Construction Combat Readiness</b>
A <i>skill</i> you are expected to perform from the General Skill Area above:	<b>Perform duties as platoon commander</b>
<i>Knowledge</i> you should have to perform this skill:	<p>Recall the duties and responsibilities of a platoon commander to include the following:</p> <ul style="list-style-type: none"> <li>• Rifle platoon commander</li> <li>• Weapons platoon commander</li> <li>• Mortar platoon commander</li> </ul>
<i>References</i> you should study to gain the knowledge you need to perform this skill:	<ul style="list-style-type: none"> <li>• Seabee Combat Handbook, Volume 1, NAVEDTRA 12003</li> </ul>
<i>Exam Expectations.</i> These are subject areas you should know to help you answer exam questions correctly:	You can expect questions on the duties and responsibilities of a platoon commander.

## Appendix 1

### References Used in This Advancement Handbook

Rating	Short Title	Long Title	Chapters/ Paragraphs	Stocking Point
CM3	NAVEDTRA 10644G-1	Construction Mechanic 3 & 2	N/A	Note 1
	NAVEDTRA 12964	Fluid Power		Note 1
	NAVEDTRA 12033	Seabee Combat Handbook, Volume 1		Note 1
	NAVEDTRA 12044	Military Requirements for PO3		Note 1
	COMSECOND/COMTHIRD NCBINST 11200.1	Equipment Management Manual		Note 4
	NAVFAC P-300	Management of Civil Engineering Support Equipment		Note 6
	Modern Automotive Technology by James Duffy		Chapters 4, 6, and 12	N/A
	TM 9-8000	Principles of Automotive Vehicles		Note 5
	COMSECOND/THIRDNCB INST 3122.1	Embarkation Manual		Note 4
	NAVEDTRA 12043	Basic Military Requirements		Note 1
	NAVEDTRA 12535	Equipment Operator Basic	Chapters 1, 2, and Appendix IV	Note 1
	NAVEDTRA 12529	Steelworker, Volume 1	Chapters 4 and 5	Note 1
CM2	NAVEDTRA 12045	Military Requirements for PO2		Note 1
	Modern Automotive Technology by James Duffy		Chapters 3, 4, 6, 8, 10 and 12	N/A

Rating	Short Title	Long Title	Chapters/ Paragraphs	Stocking Point
CM1	NAVEDTRA 12528	Construction Mechanic Advanced		Note 1
	NAVEDTRA 12045	Military Requirements for PO1		Note 1
	NAVEDTRA 12543	Naval Construction Force/Seabee 1 & C		Note 1
	DM-514	Ground Water Pollution Control		Note 1
	NAVFAC P-908	Oil Spill Control Inland Waters, and Harbors		Note 7
	NAVEDTRA 12004	Seabee Combat Handbook Volume II		Note 1
CMC	NAVEDTRA 12047	Military Requirements for CPO		Note 1
	NAVEDTRA 12537	Equipment Operator Advanced	Chapters 1, 2 and 4	Note 1
	OPNAVINST 5100.19B	Navy Safety Precautions for Forces Afloat		Note 3
	COMSECOND/COMTHIRD NCBINST 5312.1,	Timekeeping Procedures		Note 6

LEGEND:

Note 1 – To order, MILSTRIP to NAVICP PHILA (Stk No. from NAVSUP P2002) or via INTERNET <http://www.nll.navsup.navy.mil>

Note 2 – INTERNET <http://law.house.gon/4.htm>

Note 3 – INTERNET <http://www.neds.nebt.daps.mil/>

Note 4 – Ltr request to: Commander  
Second Naval Construction Brigade  
1310 8th Street, Suite 100  
Norfolk, VA 23521-2435

Note 5 – Ltr request to: Commander  
U.S. Army Publications Distribution Center – St Louis  
ATTN: ASQZ-SDC  
1665 Woodson Road  
St. Louis, MO 63114-6181

Note 6 – Ltr request to: Commanding Officer (Code 662)  
Naval Construction Battalion Center  
1000 23rd Avenue  
Port Hueneme, CA 93043-4301

Note 7 – Ltr request to: Naval School  
Civil Engineer Corps Officers  
3502 Goodspeed Street, Suite 1  
Port Hueneme, CA 93043-4336